*ANNUI-T Plus 8.0 software*

# *User manual*

**In this manual, the term ANNUI-T refers to the ANNUI-T Plus 8.0 software.**

**Note that in order to improve the viewing of the illustrations, you can always zoom in (for example at 125%).**

If you have installed the program or the trial version, you already have this manual on your computer. This file was saved in the "Doc" folder of the installation directory (by default, C:\ ANNUI-T_Plus_8).

Utilimax Inc.

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# TABLE OF CONTENTS

**1. Terms and conditions** ..... 1

**2. Generalities**

Introduction ..... 2
System requirements ..... 2
Installing the ANNUI-T program ..... 3
Uninstalling the ANNUI-T program ..... 3
Starting ANNUI-T ..... 3

**3. Data entry window**

Basics ..... 4

*"Calculate"* ..... 6
*"Modify data".* ..... 6
*"Print"* ..... 7
*"See schedule"* ..... 8
*"Calendar"* ..... 8
*"New"* ..... 8
*"Open"* ..... 9
*"Save"* ..... 10
*"Delete"* ..... 11
*"Other information"* ..... 12
*"Sales taxes information"* ..... 12
*"Lease contract classification"* ..... 12
*"Close" (data entry window)* ..... 12

**4. Annuity**

Loan ..... 13
Lease ..... 13
Investment ..... 14

**Glossary of the data entry window:**

Initial amount ..... 15
Adjusted initial amount ..... 15

**4. Annuity (con't)**

Number of periods ..... 15
Term ..... 16
Frequency of payments ..... 16
Compounding frequency ..... 16
Nominal (annual) interest rate ..... 17
Effective interest rate ..... 17
Periodic interest rate ..... 17
Equivalent interest rate ..... 18
Days in year ..... 18
Payment ..... 20
Beginning of period payment ..... 22
Adjusted payment ..... 22
Fixed principal remittance (F.P.R.) ..... 26
Adjusted F.P.R ..... 26
Residual value ..... 26
Buy back option ..... 26
Future value ..... 26

**Schedule window:**

Moving through the schedule ..... 27
*"Schedule"* ..... 27
*"Annual results"* ..... 28
*"Issue date"* ..... 29
*"Funds advance"* ..... 30
*"Adjust"* ..... 31
*"Close"* ..... 33
*"Modify"* ..... 36
*"Extend"* ..... 39
*"See / Delete modifications"* ..... 41
*"Sum"* ..... 42
*"Print"* ..... 43
*"Data"* ..... 43

**Reports:**

Procedure for reports ..... 44
*"Combine / summary" and "Combine / detailed"* ..... 46

**4. Annuity (con't)**

**Particularities of modifications:**

Modification conflicts ..... 48
Combinations of modifications ..... 56
Interest rate modification at an irregular date ..... 59
Interest rate modification for a fixed payment scenario ..... 60
Repetitive modification ..... 62
Maximal number of modifications ..... 63

**Miscellaneous:**

Change of the financial year-end date ..... 64
Caisses Desjardins loans ..... 65

**5. Future value**

Simple interest on a periodical basis ..... 69
Compounded interest on a periodical basis ..... 69
Simple interest on a daily basis ..... 70
Compounded interest on a daily basis ..... 70
Procedure to calculate a future value ..... 71

**6. Penalty calculation based on the interest rate differential** ..... 75

**7. Net present value (N.P.V.) and internal rate of return (I.R.R.)** ..... 79

**8. Retirement (retirement planning)** ..... 84

**9. What-if** ..... 88

**10. U.S. calculation methods** ..... 91

**11. Worksheets** ..... 94

Procedure to select the scenarios ..... 95
*"Accrued interest"* ..... 96
*"5 year repayments"* ..... 98
*"5 year lease pmt"* ..... 99

**11. Worksheets (con't)**

Lease contract classification ..... 99
Long-term debt presentation (EIC-122)..... 104
Long-term debt summary ..... 106
Lease obligations summary..... 109

**12. Tools**

Sales taxes calculation tool ..... 112
Cash Disbursements Journal ..... 114

**13. Journal entries**..... 123

# 1. TERMS AND CONDITIONS

At the beginning of the installation, it is essential to carefully read the terms and conditions because the installation will indicate your acceptance of the following terms and conditions. An annual license begins upon initial installation date of the software and ends one year after.

## COPYRIGHT (RIGHT OF AUTHOR)

This program can not be used on more than one computer at the same time except if it is a network version or a corporate license. It is strictly prohibited to copy or reproduce, in whole or in part, this software or the documentation, without a written approval of Utilimax Inc.

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**Windows is a trademark of Microsoft Corporation.**

## INSTALLATION RIGHT

If ANNUI-T is already installed on a computer and you wish to install this software on another computer, you must uninstall ANNUI-T from the first computer, otherwise the new installation will be denied. **As long as you uninstall your ANNUI-T program, you can always reinstall it. You can proceed this way as many times as you wish until your license expires.**

If a technical problem occurs (for example, a hard disk crash) and the uninstallation procedure becomes impossible to perform, you must then call Utilimax in order to reinstall the program.

**It is important to note that a license (one ANNUI-T software) allows you one (1) initial installation and a maximum of two (2) reinstallations per license year without having previously uninstalled the program (i.e. 2 calls to Utilimax). When a user exceeds this limit, he then have to purchase a new license to continue to use ANNUI-T.**

## DISCLAIMER OF WARRANTY

Even though many efforts have been made during the preparation of the ANNUI-T software to ensure its accuracy and compatibility, this program is provided “as is” without any warranty of any kind. **Therefore, Utilimax Inc. does not give any explicit or implicit guarantee and disclaims any responsibility for damage due to the use of the ANNUI-T software.** Moreover, the present manual is subject to change without notice.

# 2. GENERALITIES

### INTRODUCTION

Dear customer**,** Utilimax thanks you and congratulates you on your purchase of the ANNUI-T program.

Of course, there is a multitude of programs available for loan amortization and investment annuity tables. At first glance, you might think that this software is just like the others but you will soon realize that ANNUI-T is unique.

Briefly, the major ANNUI-T features are a **vast choice of calculation methods,** an **exceptional flexibility** (especially with regard to all the modification options), **a user friendly approach** and the **multi-report generation capabilities**. Moreover, **ANNUI-T Plus even includes a cash disbursements journal module, ideal to compile expense accounts, credit card statements, etc**.

**We recommend that you take the time to read this manual**. You are not expected to understand all the financial theories and concepts. We do refer to the theory only as a matter of communication clarity. We want to emphasize, throughout this manual, on the power and the options that this software provides and encourage you to explore all of them to get your money's worth.

### SYSTEM REQUIREMENTS

- IBM PC or compatible, Pentium 2 processor or higher;
- Windows 10, 8, 7, Vista or XP;
- 50 MB of free hard disk space;
- Video display with at least 800 x 600 resolution.

* **An internet connexion is also required for the ANNUI-T installation and for the upgrades.**

## INSTALLING THE ANNUI-T PROGRAM

You must have your ANNUI-T serial number. This number is printed on your invoice. During the installation, the software will try to communicate with the ANNUI-T web site to verify the serial number and register your information. Be sure that your firewall allows the installation (always, not just once).

**Installation instructions:**

(1) First, you must download the software from the web site (**www.annui-t.com**). To do so, in the menu, select “Download the complete version”.

(2) Click on the link that corresponds to the type of license you have purchased (single-user, 2 user network, 5 user network, etc).

(3) Once the download is complete, click on "Run".

(4) If the message "The publisher could not be verified. Are you sure you want to run this software?" is displayed, click on "Run".

(5) If the message “An unidentified program wants access to your computer…” is displayed, click “Allow”.

(6) Follow the instructions and answer the questions.

**After the installation, if the message "This program might not have installed correctly" is displayed, click on "This program installed correctly".**

## UNINSTALLING THE ANNUI-T PROGRAM

(1) Double-click on *“ANNUI-T …, uninstall”*.

(2) Follow the instructions and answer the questions.

The uninstall procedure is done by internet in order to permit a future installation.

## STARTING ANNUI-T

(1) Start Windows.

(2) Double-click on the ANNUI-T icon.

# 3. DATA ENTRY WINDOW

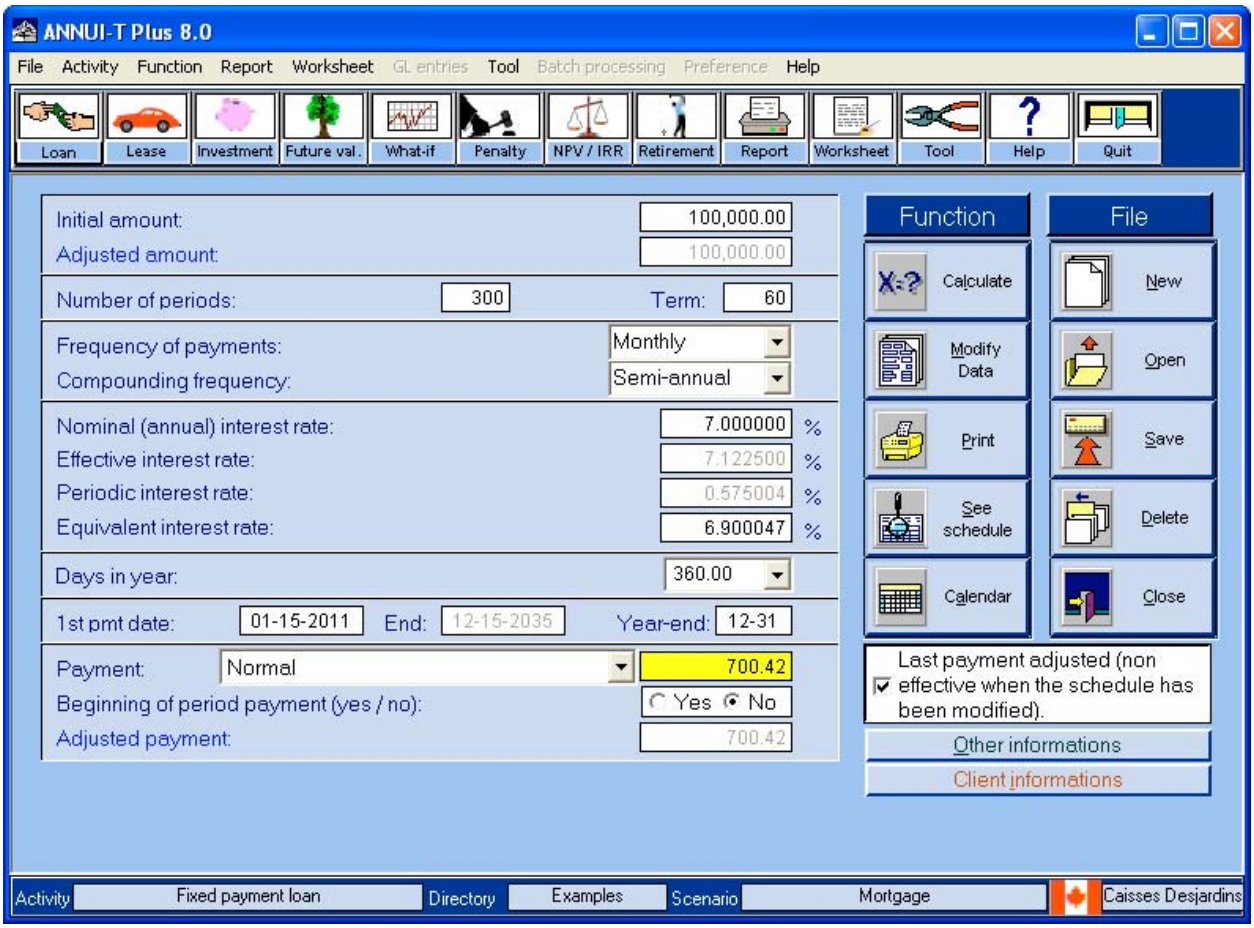

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Initial amount: 100,000.00
Adjusted amount: 100,000.00
Number of periods: 300 Term: 60
Frequency of payments: Monthly
Compounding frequency: Semi-annual
Nominal (annual) interest rate: 7.000000 %
Effective interest rate: 7.122500 %
Periodic interest rate: 0.575004 %
Equivalent interest rate: 6.900047 %
Days in year: 360.00
1st pmt date: 01-15-2011 End: 12-15-2035 Year-end: 12-31
Payment: Normal 700.42
Beginning of period payment (yes / no): Yes No
Adjusted payment: 700.42
Function
Calculate
Modify Data
Print
See schedule
Calendar
File
New
Open
Save
Delete
Close
Last payment adjusted (non effective when the schedule has been modified).
Other informations
Client informations
Activity Fixed payment loan Directory Examples Scenario Mortgage Caisses Desjardins

**Figure 3.01**
**Example of a data entry window (fixed payment loan)**

## BASICS

In a data entry window, there are usually several fields to fill in. Moving through this screen can be done with the mouse by clicking on each data field you have to fill in. You can also press TAB or ENTER to move to the next field and press SHIFT + TAB to go through the fields in reverse order.

When a field is selected, a vertical line appears showing the position of the cursor in the field. You can move the cursor with the mouse, the arrow keys or with the HOME and END keys.

To erase a zone containing data, you simply have to define the zone of data to be erased with a drag of the mouse and then press DELETE. Another possible way is to press END and then press BACKSPACE until the last desired character is erased.

Concerning the pop-up list, there are 2 methods to view the multiple choices and select a value. The first one is to press UP and DOWN. The second method is to click on the scroll arrow to open the list and then click on the desired value to be entered. In either case, you can move to the next field with ENTER or TAB. In some cases, you can also enter a numerical value directly in the field. For example, in the pop-up list for the payment frequency, you can type 1 for annual, 12 for monthly, etc.

To enter a date, you must follow the “mm/dd/yyyy” format but you can also use the pop-up calendar, as explained in the section *“Calendar”.*

Functions can be accessed from the menus activated by the ALT key or with the mouse. Therefore, except for some functions like the financial year-end modification and the change of language, all menu selections are iconized and can be activated with the mouse to save time.

Note that often in an icon description, there is an underlined letter. This is to indicate that the icon can be activated by pressing on ALT + the underlined letter.

In the “File” menu, the name of the twenty most recent used files are displayed at the end. This way, it is faster to find and open any recent file.

In the schedule, many shortcuts are available. For example, to adjust an interest amount, simply double-click on the field you wish to modify and a window will appear to allow you to enter the new amount. Similar shortcuts exist to adjust the balance, modify the payment, change the interest rate, etc.

The “Preferences” menu allows you to register default parameters:

- Name of the person or the firm to print on reports.
- Directory to save files.
- Language (English or French).
- Country (Canada or USA) for calculation methods.
- Business year-end for new scenario.
- Sales taxes parameters for leases.

- Accounting software. This applies when you import ANNUI-T GL entries to an accounting program.

Finally, help is available for each field of the data entry window by selecting the desired field and pressing F1. Help is also available for each function of the software.

***"CALCULATE"***

Once all the necessary data is entered, you have to select *"Calculate"* to start calculations.

In the case of annuities, the *"Calculate"* function serves to determine the unknown value (number of periods for amortization, interest rate, payment, etc).

For an annuity, no more than one value should be missing. If all values are entered, the program then checks the exactitude of the payment amount to be sure that the scenario makes sense.

If the unknown value to be calculated is the initial amount or the payment, you can modify the obtained computed result, as explained in sections "Adjusted initial amount" and "Adjusted payment".

Note that a schedule can be produced and consulted only after the "*Calculate"* function has been activated since it is only then that the program verifies if all the necessary data has been entered.

***"MODIFY DATA"***

When the *"Calculate"* function has been activated and the program has validated the data, the fields are highlighted in gray, indicating that they are no longer accessible. Therefore, a modification of one or several fields can only be done by selecting the *"Modify data"* function.

For example, if the calculated nominal interest rate is 11.999999 %, it is likely that the real interest rate is 12%. Note that the calculated rate could be slightly different from the rate stated in the contract because the payment amount is always rounded. This reduces the degree of precision in determining the interest rate.

In this kind of situation, the *"Modify data"* function lets you enter the real interest rate. Once the change is done, you have to activate the *"Calculate"* function again in order to validate the new data.

It is important to note that for an annuity calculation, once the **schedule** has been changed (skipped payment, modification of interest rate, new funds advance, etc), any change of the data will be denied in the data entry window.

***"PRINT"***

This function lets you print the data entry window. If you wish to print a schedule, such as a loan amortization schedule, you must select the *"Print"* function from the schedule window because **the *"Print"* function always relates to the window that is displayed.**

When you activate the *"Print"* function, the program displays the printing window as in the example below.

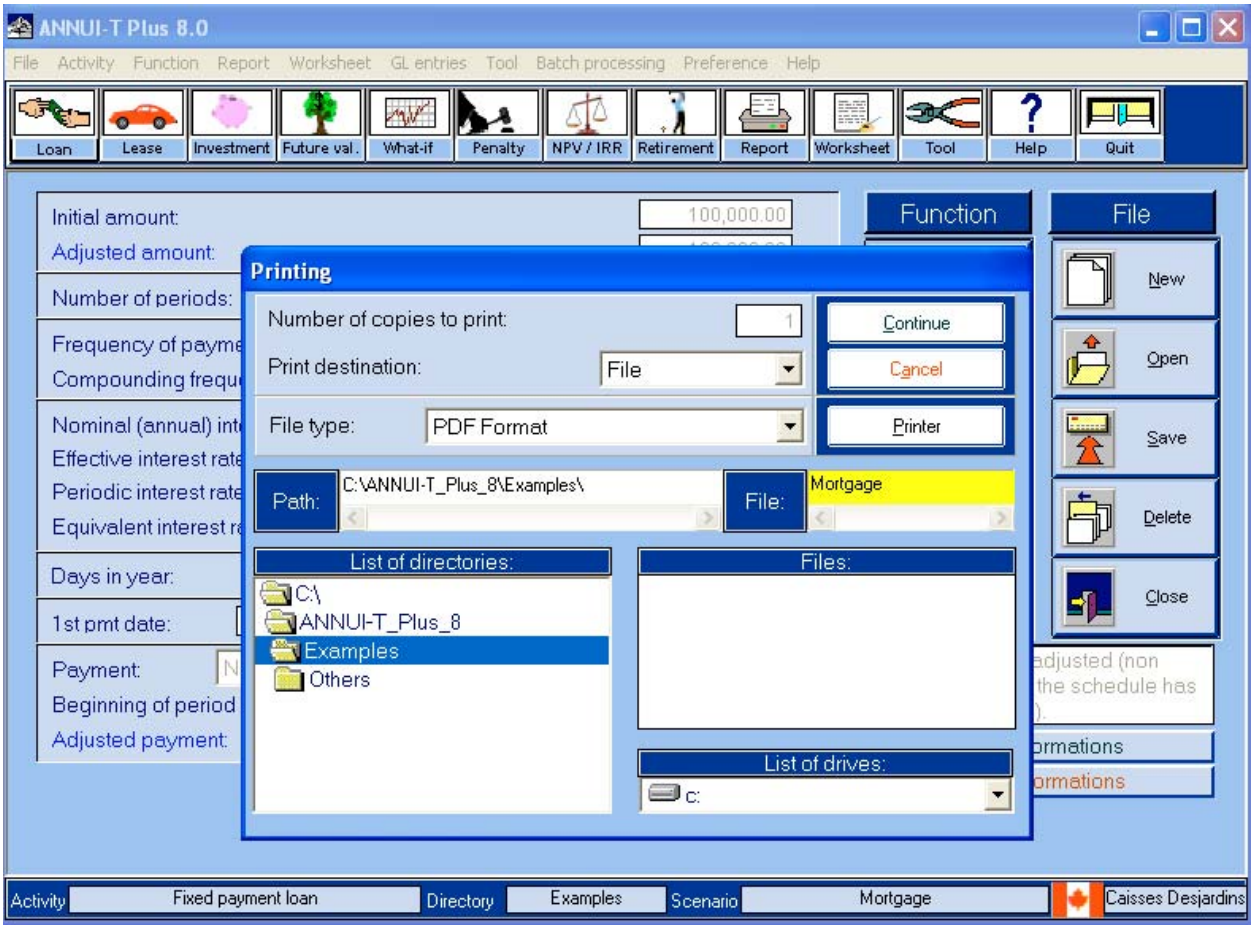



**Figure 3.02**
**Printing window**

The prompted screen requires you to indicate the number of copies to be printed and the destination (printer or file).

The program always chooses the Windows default printer. Nevertheless, by clicking on the *"Printer"* button, the printer configuration screen is displayed, which allows you to select a different printer. This change of printer is valid not only for ANNUI-T but also for Windows.

Note that the printer configuration screen also lets you choose other options such as portrait or landscape presentation and the printing quality.

Finally, if the chosen printing destination is a file, you have to indicate the disk drive and the path where the file will be saved. Then you must enter the file name and its format of saving (PDF, Excel, Word, etc).

***"SEE SCHEDULE"***

This option lets you visualize the schedule, for example, a loan amortization schedule. Note that this window gives you access to several other functions (see section "Schedule window").

***"CALENDAR"***

While entering a date, it is possible to consult the calendar by clicking on this icon or by pressing on ALT + D. Moving through the calendar can be done with the arrow keys or with the mouse. To quit, simply press ESC.

You can automatically enter the desired date from the calendar by double-clicking on this date or by positioning the cursor on the date and pressing ENTER.

***"NEW"***

Select this function to quit the active scenario and create a new one of the same type. Note that in this case, all schedule modifications (skipped payment, change of interest rate, etc) will be deleted. First, ANNUI-T always asks you if the active scenario has to be saved or not. Then the program asks you if you wish to keep the entered data in the data entry window or erase it.

***"OPEN"***

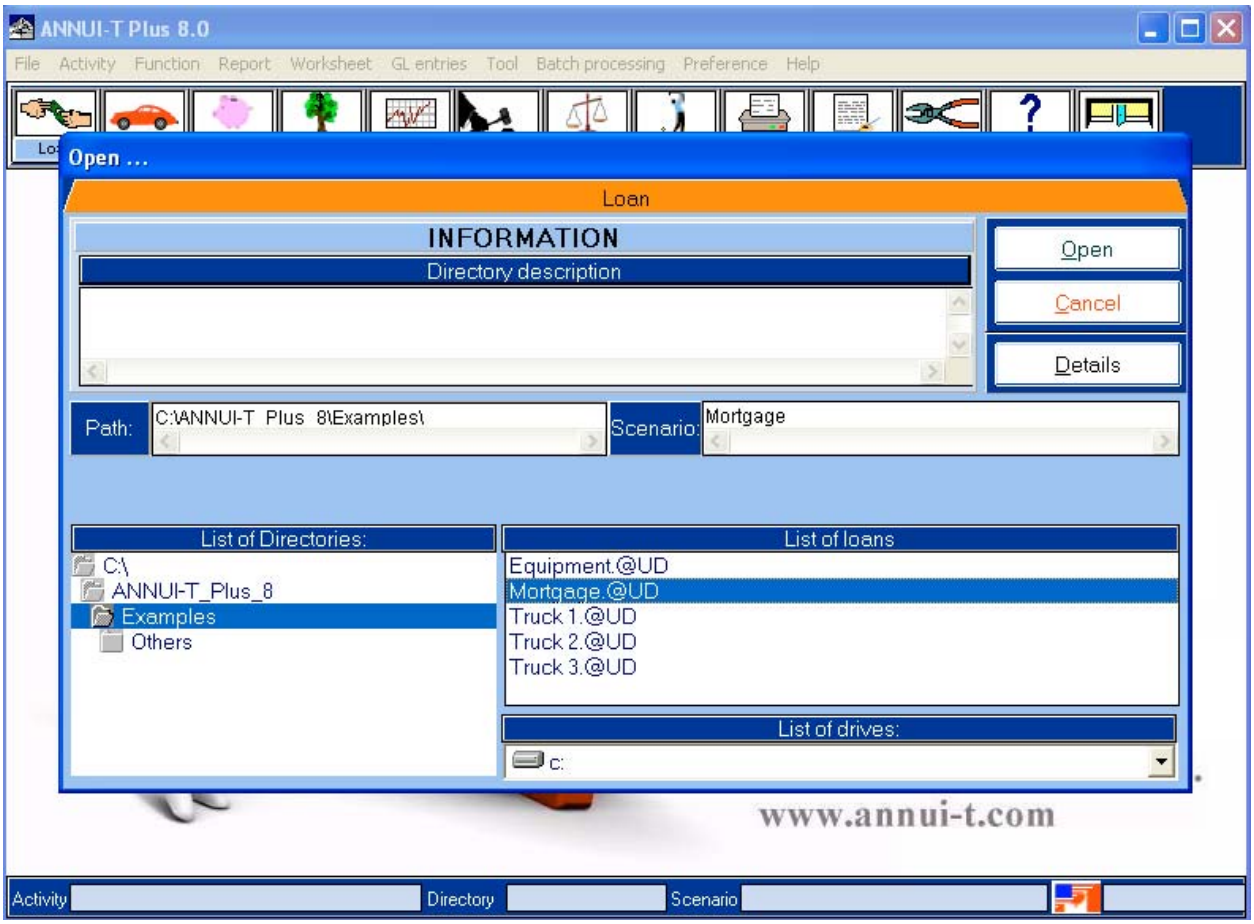



**Figure 3.03**
**Open file window**

Select this procedure to activate a saved scenario on a hard disk or on another device. The default is the active hard disk but you can always select another disk from the "List of drives".

Then, you must indicate the directory that contains the file to be opened. The directory can be entered directly in the "Path" field or you can select it from the list of directories by double-clicking on it. If the directory has a recorded description, it will be displayed.

Note that when you save a scenario, you can document the directory with a brief description of its content so that you can trace down and retrieve files more easily later. For example, the directory could be your customer's name (useful when the customer has many scenarios saved).

Next, you have to enter the name of the scenario. Again, when retrieving a file, the specific file name can be entered directly in the *"Scenario"* field or you can double-click on the file name in the list. You can also select *"Details"* to consult the file description before retrieving it.

Finally, you have to click on *"Open"* to retrieve the scenario.

**Note that if you wish to open a scenario of a different type (for example, if you are in a loan and now want to open a lease scenario), you must then select *"Open"* from the File menu**.

Moreover, in the "File" menu, the name of the twenty most recent files used are displayed at the end. This way, it is faster to find and open any recent file

***"SAVE"***

This function allows you to save a scenario. By default, the program assumes that the file will be saved on the running hard disk. Otherwise, you have to select the proper disk from the "List of drives".

After you have selected the drive, you have to specify, in the path field, the directory in which you want to save your scenario. If it is a new directory, the program offers to create it. If the directory already exists, you can select it from the list of directories using double-clicks to indicate the path.

**We recommend that public accountants create a specific directory for every customer and save all related scenarios by customer.**

In fact, a public accountant usually prepares many financial statements. For the majority of them, he has to establish the accrued interest at the financial year-end and the note concerning the principal repayments of the next 5 financial years.

Knowing that ANNUI-T Plus can automatically generate these reports, an accountant should always save every scenario. For this reason, an accountant usually saves a large number of files. If the files of all his customers are saved in the same directory, it could become difficult for him to identify the scenarios. Furthermore, there will be a risk of omission when selecting the scenarios for reports such as "5 year repayments", "Accrued interest", "Combine / summary", "Combine / detailed", etc.

This is why the best solution is to always save all the files of a customer in a distinct directory. However, it is not necessary to create a directory for each type of scenario (loan, lease, investment, future value, N.P.V. / I.R.R., retirement, etc). The ANNUI-T recording procedure assigns a different file extension, depending on the type of scenario, so that automatic sorting can be done. For example, when you select *"Open"* and *"Loan",* the selection window will display loan files only even though in reality, it contains other types of scenarios.

Of course, when you save each customer's scenario in a distinct directory, you may end up with several directories. That is why ANNUI-T allows you to save a description of the directory, for example, the customer's name. This description will be displayed each time the directory is selected. Ideally, you should record this description when you save your first file in the directory but you can modify this information later, when you save any other scenario in the directory.

Once the directory is selected, you have to indicate the name of the file to be saved. If this file already exists, it can be selected from the list. Otherwise, you must enter the name in the "Scenario" field. You can use up to 80 characters for file names. You can also add a description to the scenario in order to make it easier to identify the scenario when retrieving it later on. This description is printed on some reports.

When all this information is entered, just click on the "Save" icon. **Remember that it is always important to make security copies of your files.**

***"DELETE"***

This function allows you to delete scenarios saved on a hard disk or another device. First, as usual, you have to indicate the disk drive, the type of scenario (loan, lease, investment, future value, N.P.V. / I.R.R., retirement, etc) and the directory. For more information on this procedure, please refer to the section *"Open"*.

Next, you have to identify the scenarios to be deleted. To avoid errors, you should always activate the *"Details"* icon to display the scenario description before deleting it.

When only one scenario has to be deleted, you simply have to click on the file name in the list. To delete several scenarios in the same directory, you have to keep the CTRL key pressed and click on each file to be deleted.

If the scenarios to be deleted are consecutively listed, you may also proceed by block deletion. In this case, you have to click on the first scenario, press and hold the SHIFT key and click on the last scenario to be deleted.

Once the selection is done, click on *"Delete"*.

***"OTHER INFORMATION"***

This icon is used to enter the name of the debtor and the securities attached to a loan. This information is optional and is used in some ANNUI-T Plus worksheet.

***"SALES TAXES INFORMATION"***

This function is for a lease scenario and allows you to register up to 2 sale taxes (for example, GST and QST in Quebec).

***"LEASE CONTRACT CLASSIFICATION"***

This module is to help you determine the nature of a lease contract based on the criteria defined in the CICA Handbook section 3065 (capital lease or operating lease). For more information, please refer to the "Worksheets" section.

***"CLOSE"***

This is used to return to the main Window.

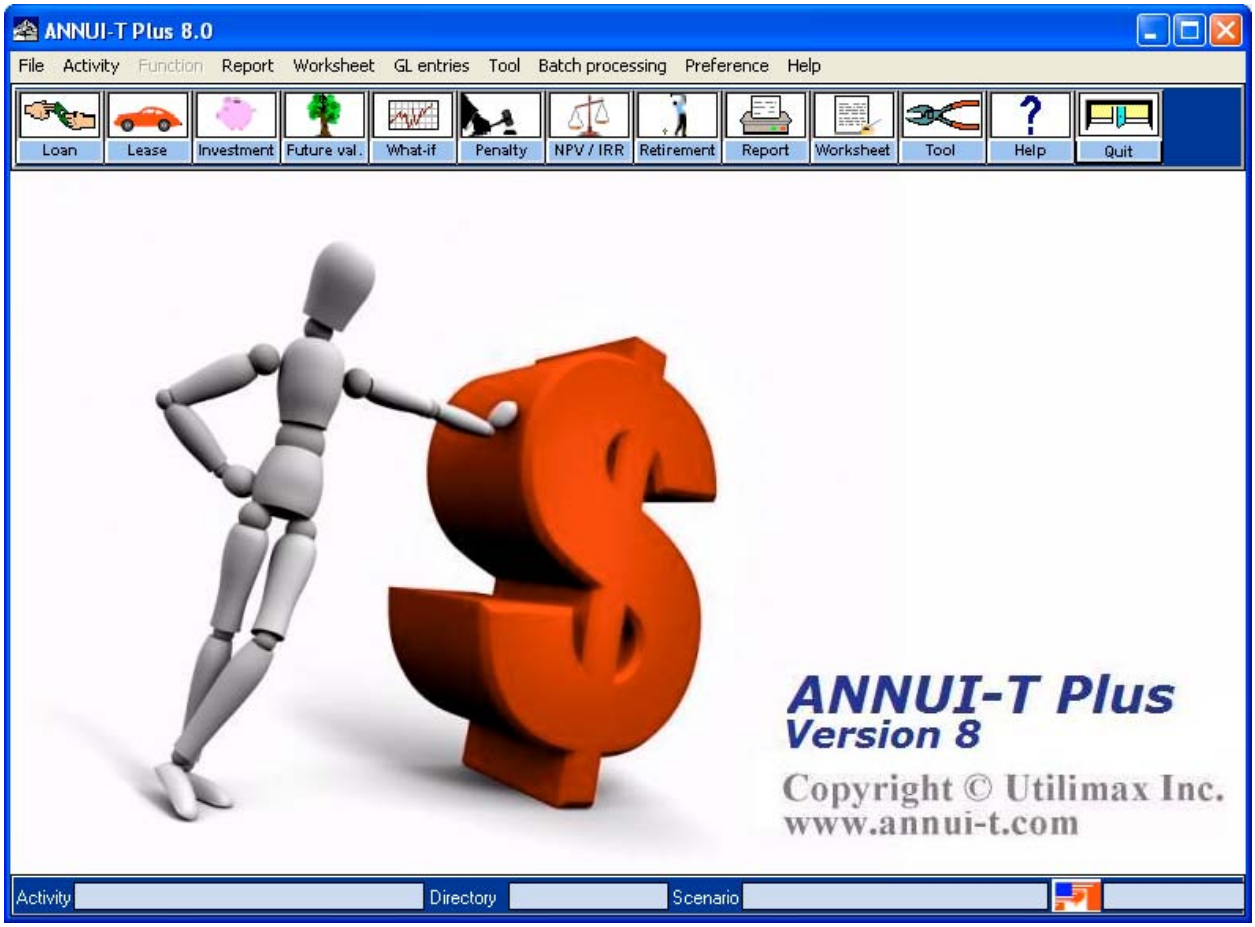



**Figure 3.04: Main window**

# 4. ANNUITY

### *"LOAN"*

When you select *"Loan",* a second window is displayed to let you select the type of loan. There are 3 different choices offered by ANNUI-T. First, there is the "Fixed payment loan" where the payment is equal from period to period. This is by far the most popular kind of loan.

The second choice is the "Fixed principal payment loan" where payments vary from one period to another. For example, a $72,000.00 loan amortized on 36 months has a monthly payment of $2,000.00 **plus** interest. Since the interest will constantly fluctuate, the payment amount varies periodically.

Finally, you can select a "Loan with residual value" where payments are fixed and equal from period to period but with a balance at maturity (the residual value). This is popular in automobile financing contracts. At maturity, the borrower may pay the remaining balance of the loan (often by returning the goods) or refinance it. This kind of loan is similar to a lease with a buy back option.

Once the type of loan is selected, you have to specify if the interest has to be calculated with the method of the Caisses Desjardins or with the method of other Canadian financial institutions. For more details, refer to "Caisses Desjardins loans" in the section "Miscellaneous".

### *"LEASE"*

This option is used to handle lease contracts with a buy back option. In this kind of scenario, the periodical payment is fixed and calculated so that the final payment is equal to the amount of the buy back option.

ANNUI-T also allows you to deal with lease contracts where the leaseholder has to pay, as the first lease payment, an amount equivalent to 2 payments so that the last lease payment is prepaid (the one preceding the buy back option). As far as we know, ANNUI-T is one of few programs to offer this option. To choose this last option, simply click on "Last lease payment prepaid".

***"INVESTMENT"***

This option allows you to process periodical deposit investments (with or without an initial amount). With the ANNUI-T program, the first deposit is recorded on the first period and the scenario always ends one period after the last deposit. For example, if the duration is 24 months, the scenario ends on the 25$^{th}$ period (24 months after the first deposit).

Note that with a business or a financial calculator, you have to select “Beginning of period payment” for equivalent calculation. Otherwise, the end result of the calculator will correspond to the future value that precedes the last period in the ANNUI-T computation.

## GLOSSARY OF THE DATA ENTRY WINDOW

### INITIAL AMOUNT

The initial amount is the amount borrowed or the initial balance of a lease contract or an investment annuity.

### ADJUSTED INITIAL AMOUNT

This option can be used when the initial amount is the value to be calculated by the program. Once ANNUI-T has determined this value, you can modify the result, for example, to round off the amount.

### NUMBER OF PERIODS

This is the number of amortization periods for a loan or a lease or the number of deposits for an investment annuity. For example, let us take the case of a mortgage with a 5 year term, amortized over 25 years, with monthly payments. The number of periods to be entered in the data entry window is 300 periods (25 years x 12 payments per year). Notice that the term of the contract (5 years in the example) is not relevant here.

For a lease contract, the buy back option is considered to be the last payment. Consequently, this has to be countered in the number of periods to be entered.

Note that there is a maximum limit of duration allowed depending on the payment frequency and the kind of scenario. For example, for a loan or a lease with fixed payments on a monthly multiple basis (annual, semi-annual, every 4 months, quarterly, every 2 months and monthly), the maximum duration of amortization is 50 years. In all other cases, the limit is 1305 periods.

Except for the limit of 1305 periods set by the system, the control of the maximum duration is there to prevent unrealistic scenarios. For example, a loan with fixed payments, amortized over too many years, renders the reimbursement of the debt impossible, the payment amount being insufficient to cover the interest of the first period.

### TERM

This field is optional and is applicable for loans only. This information is used in some of the worksheets generated by ANNUI-T Plus. In this field, you have to enter the duration of the term (not the amortization period). For example, for a loan with monthly payment and a 5 year term, the duration to enter would be 60 periods.

### FREQUENCY OF PAYMENTS

Here are the different frequencies allowed:

| | Payments per year |
|---|---|
| - Annual | 1 |
| - Semi-annual | 2 |
| - Every 4 months | 3 |
| - Quarterly | 4 |
| - Every 2 months | 6 |
| - Monthly | 12 |
| - Every 4 weeks | 13 |
| - Semi-monthly | 24 |
| - Every 2 weeks | 26 |
| - Weekly | 52 |

ANNUI-T also allows you to register payments at the end of the month. This option is offered when the first payment occurs at the end of a month that has less than 31 days.

For example, if the first monthly payment occurs on April 30$^{th}$, you have to indicate if the payment must be on the 30$^{th}$ day of each concerned month (except for February of course) or on the last day of the month. If the first payment occurs on the 31$^{st}$ day of a month, the program automatically sets the “end of the month” option.

### COMPOUNDING FREQUENCY

This represents the number of times the interest is theoretically supposed to be calculated at regular intervals and added to the principal. The frequencies allowed are the same as for the payment frequency but you can also choose “Daily” and “Canadian mortgage”.

The “Canadian mortgage” option is there to help those who are not familiar with financial concepts because it is nothing more than a semi-annual compounding frequency, which in Canada, is Federal law for mortgages.

As far as personal loans are concerned, the compounding frequency is usually the same as the payment frequency.

**NOMINAL (ANNUAL) INTEREST RATE**

This rate is the one that financial institutions display and usually state in the contract. The nominal interest rate never considers the compounding frequency.

**EFFECTIVE INTEREST RATE**

This is the real annual interest rate, since it takes into account the compounding frequency of interest. The higher the frequency is, the higher the effective interest rate becomes.

For example, a nominal interest rate of 10% compounded monthly means that the effective interest rate is 10.47%. Calculations are as follows:

((1 + (.10/12))^ 12) -1 = 10.47%

Effective interest rate = ((1 + (nr/c))^ c) -1

Where

nr = nominal interest rate
c = compounding frequency

**PERIODIC INTEREST RATE**

This interest rate is also called the interest factor. The periodic rate is normally used in fixed payment loans. It can be defined as an adjusted interest rate since it takes into account the effective interest rate and the payment frequency.

Normally, when this rate is determined, the interest calculation at a given date is very simple since it is equal to the preceding balance multiplied by the periodic interest rate.

If the interest calculation method is based on 360 days per year (for more details, please refer to “Days in year”), the periodic rate is equal from period to period.

Otherwise, in Canada, if the calculation basis is 365 days or more per year, the periodic interest rate changes continuously because this method is based on the real number of elapsed days since the last date of interest calculation.

**EQUIVALENT INTEREST RATE**

This interest rate relates to a method only used by the Caisses Desjardins. For more details on this particular method, please refer to “Caisses Desjardins loans” in the section “Miscellaneous”.

**DAYS IN YEAR**

**This section applies for Canadian interest calculation methods. For U.S. methods, please refer to chapter 10 (‘’U.S. calculation methods’’).**

Whatever the financial institution, interest is always determined according to the elapsed time as a fraction of a year.

**Fundamentally, the annual number of days used in calculations is simply an expression to identify the method used to calculate this fraction.**

**The payment calculation is not affected by the method used, except if the payment frequency is weekly or every 2 weeks.** For example, if the payment is monthly, whatever the days in year basis used, the payment remains the same.

**Nevertheless, the days in year basis used will always influence the interest calculation.** In other words, the interest amount varies from one method to another.

Remember that the interest amount for a given period is usually equal to the preceding balance multiplied by the periodic interest rate. The formula for the periodic interest rate depends on the days in year basis used (360 or 365 or 365.25 or 366 days).

Note that in the data entry window, when you make your “Days in year” selection, 366 means that a 366 days in year basis will be used in the interest calculation for the number of days included in a leap year and a 365 days basis for the number of days included in a normal year.

Even if there are many choices for the days in year basis, there are only 2 main methods to calculate an amount of interest.

**The first method uses a 360 days per year basis with the assumption that every period has the same importance.**

**The 360 days basis assumes that a year is composed of equal periods (for example, one month = 1/12, one week = 1/52, etc) even if in reality, the number of days can be different from one period to another. As long as the payment frequency is respected, the periodic interest rate to be used stays the same for every period.**

**However, when an irregularity occurs, for example a late payment, with a 360 days basis, interests are not calculated the same way and depend on the lender's policies.** For example, Canadian chartered banks often use a pro rata for this purpose where the Caisses Desjardins use a method based on the concept of "daily equivalence within a period".

**The second method uses a 365 or more days in year basis with the assumption that every day has the same importance. With this method, the periodic interest rate must be determined every time that the interest has to be calculated. This rate is based on the real number of days elapsed since the last interest calculation.**

This is why, even if the payment frequency is not respected, the calculation method remains the same.

**This last method is mainly used when the payment frequency is more than 24 times per year. In Canada, most of the financial institutions use this method for mortgage contracts when the payment frequency is weekly or every 2 weeks.**

In Canada, if the payment frequency is less than 26 times per year, for example, with a monthly payment frequency, the 360 days in year basis is by far the most popular.

**However, the general method of the Caisses Desjardins is based on a 365.25 days in year basis but for mortgages with monthly multiple basis payment (annual, semi-annual, every 4 months, quarterly, every 2 months and monthly ), they use a 360 days in year basis.**

For more details, please refer to "Caisses Desjardins loans" in the section "Miscellaneous".

Fortunately, in any case, ANNUI-T always proposes the proper days in year basis but you are allowed to choose another basis. If so, the program will display a warning message on your selection before it lets you continue.

Therefore, if the normal schedule (before any modification) is different from the one produced by the financial institution, you simply have to try another days in year basis.

If the interest calculation method is based on 360 days in year and the payment frequency is not respected (skipped payment, etc), the results might be different from those of the lender. In these circumstances, the method used to calculate interest often depends on the lender's policies.

With ANNUI-T, this does not cause any problem because in any case, you can always modify the loan balance or the interest amount with the "Adjust" function. Even if the difference in calculation is usually minor, it is always preferable to adjust the results to those of the lender.

**PAYMENT**

This is the amount to pay periodically. This must exclude any kind of fixed charges such as insurance premiums.

**In the data entry window, a pop-up list allows you to indicate the kind of payment (non applicable for fixed principal payment loan). The choices are:**

- Normal

- Skip payment series

- Dollar ($) step payment series (payment amount varying of $ X at every series)

- Percent (%) step payment series (payment amount varying of X % at every series)

- Interest only payment series

- Fixed amount series. For example, in the case of a loan with monthly payment, the lender and the debtor could decide that every year, the payment amount for the first three months would be $200 and for every other month, the payment would be the regular amount (calculated by ANNUI-T based on the interest rate and the number of periods to amortized the loan).

- Freestyle payment series. With this option, a window is displayed to let you enter, for any chosen period, a special payment amount. You can also indicate non payments. Even for this kind of scenario, ANNUI-T is able to calculate a regular payment applicable to periods with no special payment registered.

The following illustrates an example. A $27,094.04 loan is amortized over 2 years at 9% and is payable by quarterly payments (every 3 months). In this case, we want to calculate the regular payment if, at every second and third quarter of the year, the payment amount increases by $1,000.00 over the one made in the previous year. Answer: $3,000.00.

Note that once the unknown value is calculated, ANNUI-T automatically registers the modifications in the schedule.

For the user, the procedure is quite simple. You only have to indicate in the data entry window the kind of special series payment and fill out the following information:

- Number of regular payments preceding the first series (1 in the example).
- Number of periods in a single series (2 in the example).
- Number of regular payments between 2 series (2 in the example).
- Total number of series (2 in the example).
- Payment variation amount ($1,000.00 in the example).

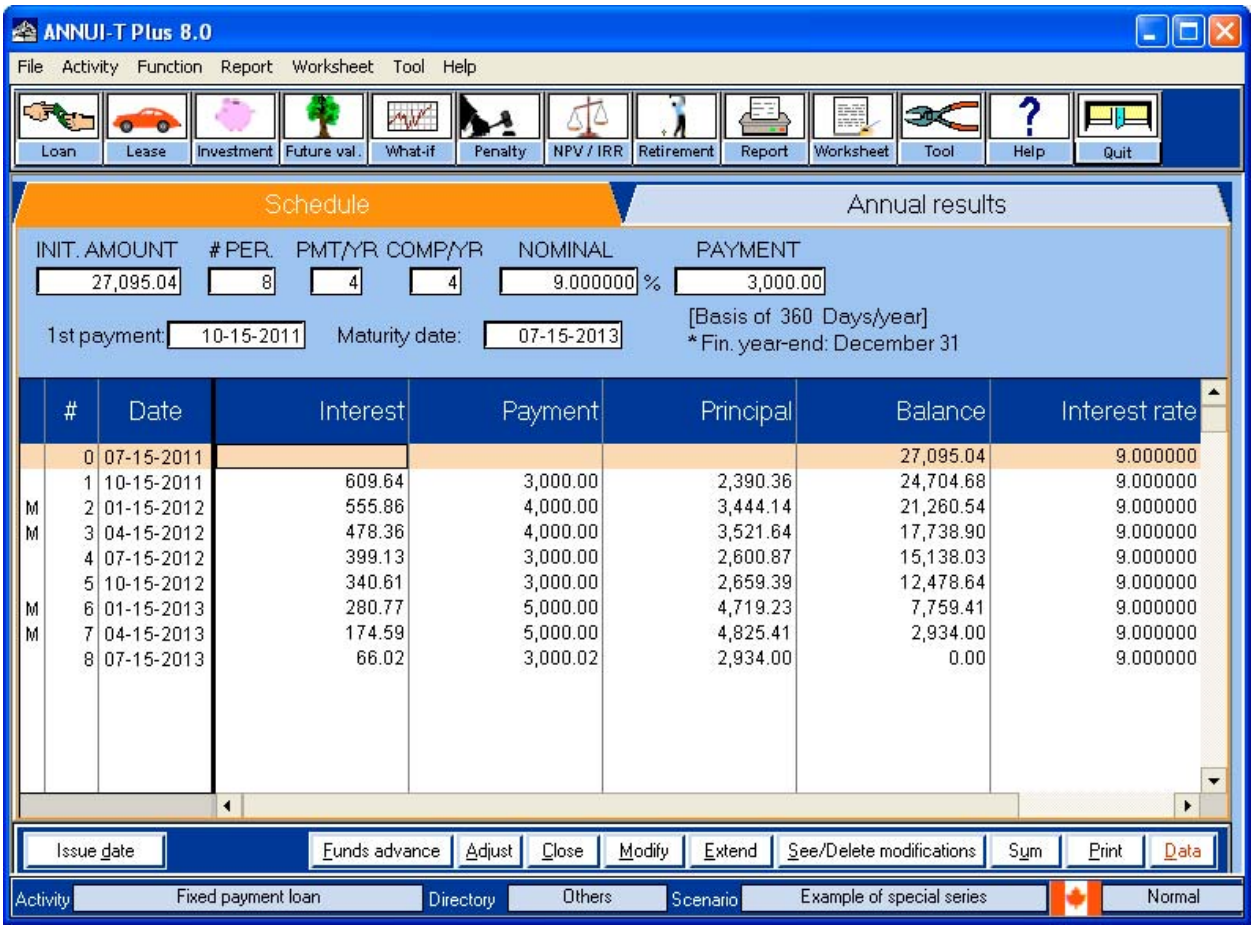

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Schedule
Annual results
INIT. AMOUNT # PER. PMT/YR COMP/YR NOMINAL PAYMENT
27,095.04 8 4 4 9.000000 % 3,000.00
1st payment: 10-15-2011 Maturity date: 07-15-2013
[Basis of 360 Days/year]
* Fin. year-end: December 31
# Date Interest Payment Principal Balance Interest rate
0 07-15-2011 27,095.04 9.000000
1 10-15-2011 609.64 3,000.00 2,390.36 24,704.68 9.000000
M 2 01-15-2012 555.86 4,000.00 3,444.14 21,260.54 9.000000
M 3 04-15-2012 478.36 4,000.00 3,521.64 17,738.90 9.000000
4 07-15-2012 399.13 3,000.00 2,600.87 15,138.03 9.000000
5 10-15-2012 340.61 3,000.00 2,659.39 12,478.64 9.000000
M 6 01-15-2013 280.77 5,000.00 4,719.23 7,759.41 9.000000
M 7 04-15-2013 174.59 5,000.00 4,825.41 2,934.00 9.000000
8 07-15-2013 66.02 3,000.02 2,934.00 0.00 9.000000
Issue date Funds advance Adjust Close Modify Extend See/Delete modifications Sum Print Data
Activity Fixed payment loan Directory Others Scenario Example of special series Normal

**Figure 4.01**
**Example of loan with dollar ($) step payment series**

Finally, for leases and fixed payment loans, there is an option to force the last payment to be equal to the regular payment. In these circumstances, the interest amount for the last period is adjusted accordingly. However, this option becomes non-effective as soon as you modify the schedule.

### BEGINNING OF PERIOD PAYMENT

This option is related to loans and leases only. With this option, the first payment is made at the date of the beginning of the contract, usually the very same day of the contract signing. Therefore, there is no interest owed on the first period. The total amount of the disbursement is considered as a repayment of principal.

Most of the lease contracts follow this methodology. This is why, for a lease, ANNUI-T sets this assumption as the default but you are free to change it.

Of course, for loan contracts, ANNUI-T assumes that the payment is to be made at the end of the period but once again, you can select “Beginning of period payment”.

### ADJUSTED PAYMENT

As with the initial amount, it is possible to modify the calculated payment amount from the start. This kind of adjustment is sometimes necessary to fit the lender’s payment calculation because financial institutions often use rounded amounts.

This option has some other practical advantages. For example, imagine that you would like to generate a future amortization schedule for a Canadian mortgage with fixed payment due on the 10$^{th}$ day of each month.

You do not know the initial amount nor the number of periods for amortization. However, you do know that the interest rate is 6.5%, the payment is $870.77 and the balance on February 10$^{th}$, 2012 is $125,106.08.

With ANNUI-T, the solution to this case is as follows:

First, you have to enter the balance as the initial amount and choose a sufficient number of periods for amortization purposes. Let us say 300 periods.

Secondly, you have to indicate the payment frequency and the compounding frequency (semi-annual since it is a Canadian mortgage).

Thirdly, you must enter the nominal interest rate (6.5%) and the first payment date, March 10$^{th}$, 2012, which is the first payment after the initial balance.

Finally, you have to select *“Calculate”*. Then the program determines the payment. This result is of little importance because you have to modify it to enter the real payment amount ($870.77). Figure 4.02 illustrates this example.

Note that this situation occurs, most of the time, when you want to generate an amortization schedule from financial statement figures.

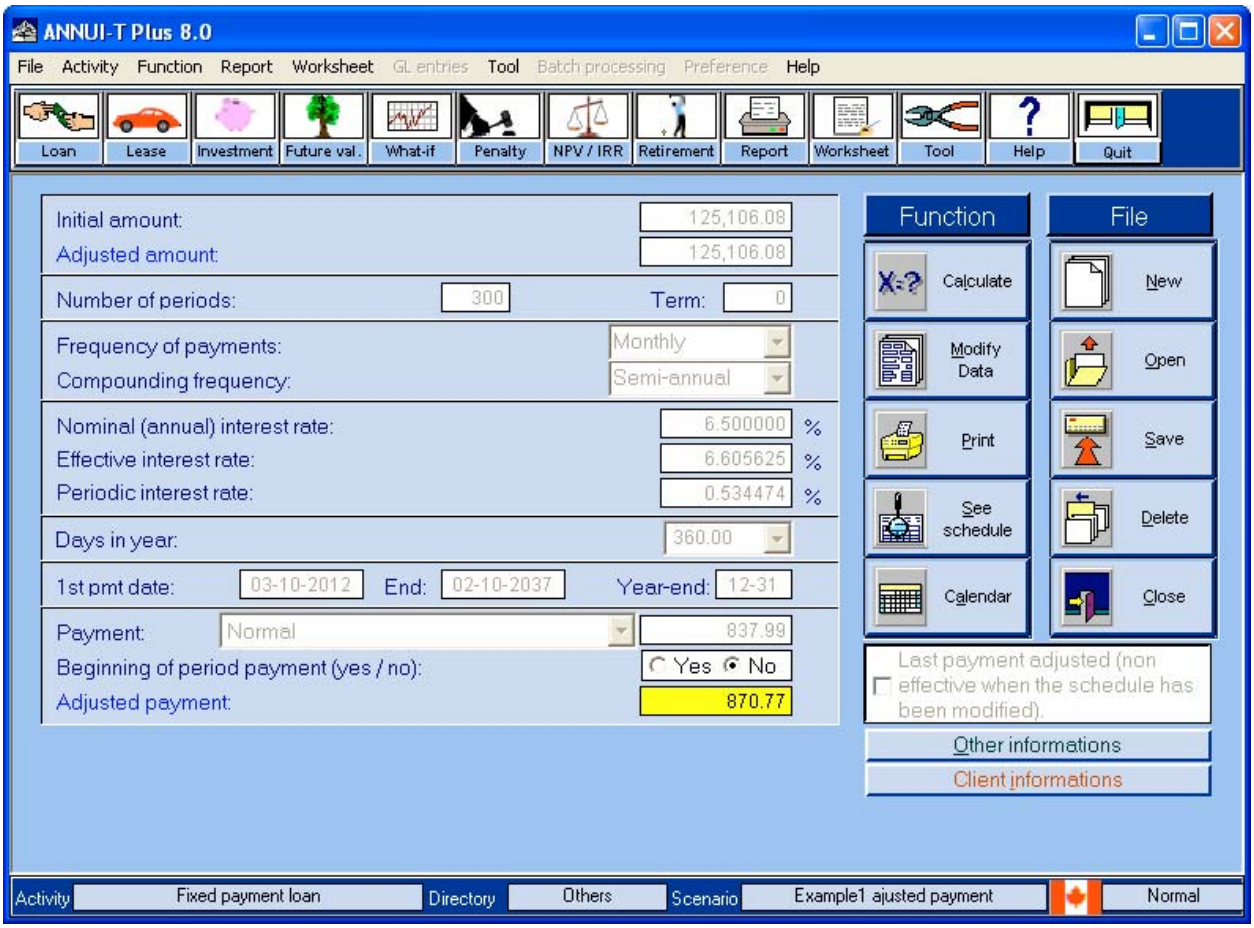

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Initial amount: 125,106.08
Adjusted amount: 125,106.08
Number of periods: 300 Term: 0
Frequency of payments: Monthly
Compounding frequency: Semi-annual
Nominal (annual) interest rate: 6.500000 %
Effective interest rate: 6.605625 %
Periodic interest rate: 0.534474 %
Days in year: 360.00
1st pmt date: 03-10-2012 End: 02-10-2037 Year-end: 12-31
Payment: Normal 837.99
Beginning of period payment (yes / no): Yes No
Adjusted payment: 870.77
Function
Calculate
Modify Data
Print
See schedule
Calendar
File
New
Open
Save
Delete
Close
Last payment adjusted (non effective when the schedule has been modified)
Other informations
Client informations
Activity Fixed payment loan Directory Others Scenario Example1 ajusted payment Normal

**Figure 4.02**
**Example of an adjusted payment from the start**

This possibility to modify the payment from the start is also useful in the case of a mortgage with **weekly** payments established on **monthly** payments calculation (often called “accelerated weekly payments”).

Financial institutions offer this option to allow the borrower to reimburse his debt more quickly. With this method, the lender calculates the monthly payment and simply divides it by 4 to establish the weekly payment. Knowing that there is an average of 4.33 weeks per month, the calculated amount is over evaluated, furthermore, the payment frequency is higher.

Figure 4.03 illustrates an example of a mortgage with monthly payments. Figure 4.04 illustrates a mortgage with weekly payments where the payment amount is modified to be the equivalent of 25% of the monthly payment.

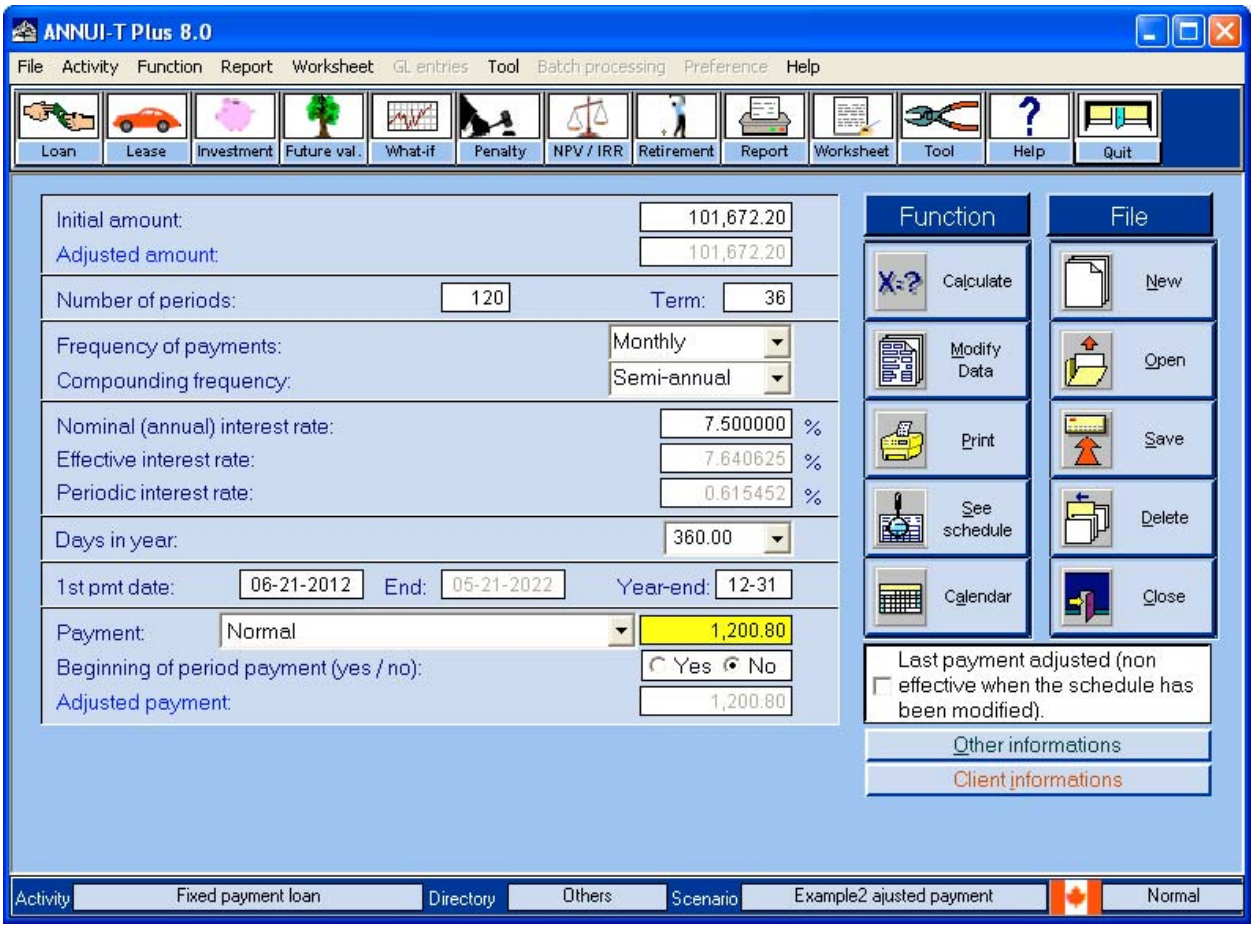

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Initial amount: 101,672.20
Adjusted amount: 101,672.20
Number of periods: 120 Term: 36
Frequency of payments: Monthly
Compounding frequency: Semi-annual
Nominal (annual) interest rate: 7.500000 %
Effective interest rate: 7.640625 %
Periodic interest rate: 0.615452 %
Days in year: 360.00
1st pmt date: 06-21-2012 End: 05-21-2022 Year-end: 12-31
Payment: Normal 1,200.80
Beginning of period payment (yes / no): Yes No
Adjusted payment: 1,200.80
Function
File
Calculate
New
Modify Data
Open
Print
Save
See schedule
Delete
Calendar
Close
Last payment adjusted (non effective when the schedule has been modified).
Other informations
Client informations
Activity Fixed payment loan Directory Others Scenario Example2 ajusted payment Normal

**Figure 4.03:**
**Example of a mortgage with monthly payments**

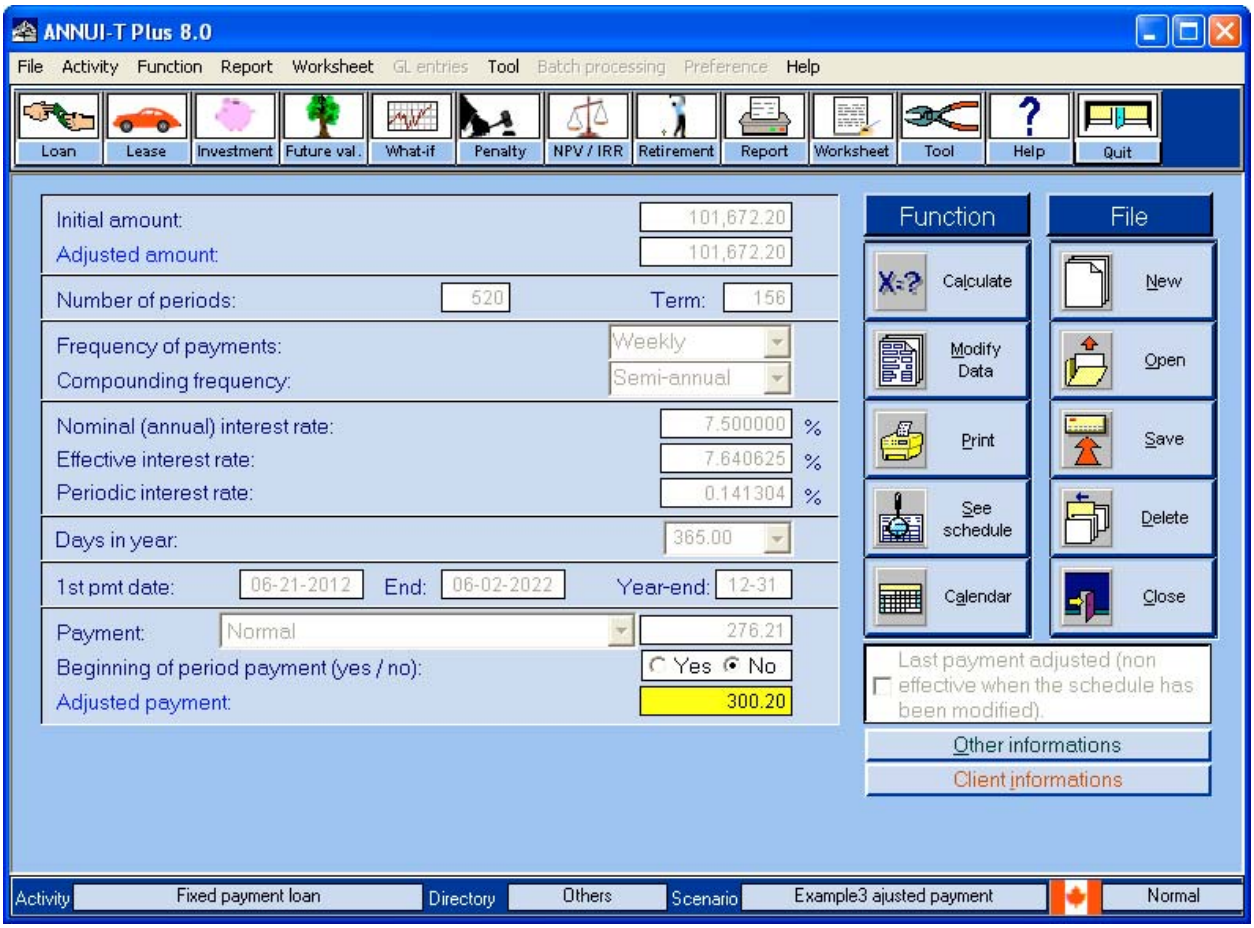

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Initial amount: 101,672.20
Adjusted amount: 101,672.20
Number of periods: 520 Term: 156
Frequency of payments: Weekly
Compounding frequency: Semi-annual
Nominal (annual) interest rate: 7.500000 %
Effective interest rate: 7.640625 %
Periodic interest rate: 0.141304 %
Days in year: 365.00
1st pmt date: 06-21-2012 End: 06-02-2022 Year-end: 12-31
Payment: Normal 276.21
Beginning of period payment (yes / no): Yes No
Adjusted payment: 300.20
Function
Calculate
Modify Data
Print
See schedule
Calendar
File
New
Open
Save
Delete
Close
Last payment adjusted (non effective when the schedule has been modified)
Other informations
Client informations
Activity Fixed payment loan Directory Others Scenario Example3 ajusted payment Normal

**Figure 4.04:**
**Example of a modified weekly payment**

### FIXED PRINCIPAL REMITTANCE (F.P.R.)

This is the periodical amount to reimburse with a fixed principal payment loan. For example, with this kind of loan, $36,000.00 amortized over 12 months means that the fixed repayment of principal is $3,000.00 per month. In other words, the monthly payment is $3,000.00 **plus** interest.

Note that for a fixed principal payment loan, the payment varies because even if the repayment of principal is fixed, the interest usually decreases from one period to another.

### ADJUSTED F.P.R.

This option allows you to adjust the calculated amount of the fixed principal remittance. Normally, this is used to round off a calculated amount.

### RESIDUAL VALUE

This represents the balance at maturity of a loan with residual value. As opposed to a typical loan, this kind of debt is not totally paid off at maturity. Normally, after the last payment, the borrower has the choice between the payment of the remaining balance and a refinancing of this amount.

### BUY BACK OPTION

This is the final payment predetermined in a lease contract. For example, it can be stated that this amount would be 10% of the original value of the leased goods.

### FUTURE VALUE

The future value represents the amount to be received by the investor at maturity, as the total of principal and interest accumulated on his investment.

## SCHEDULE WINDOW

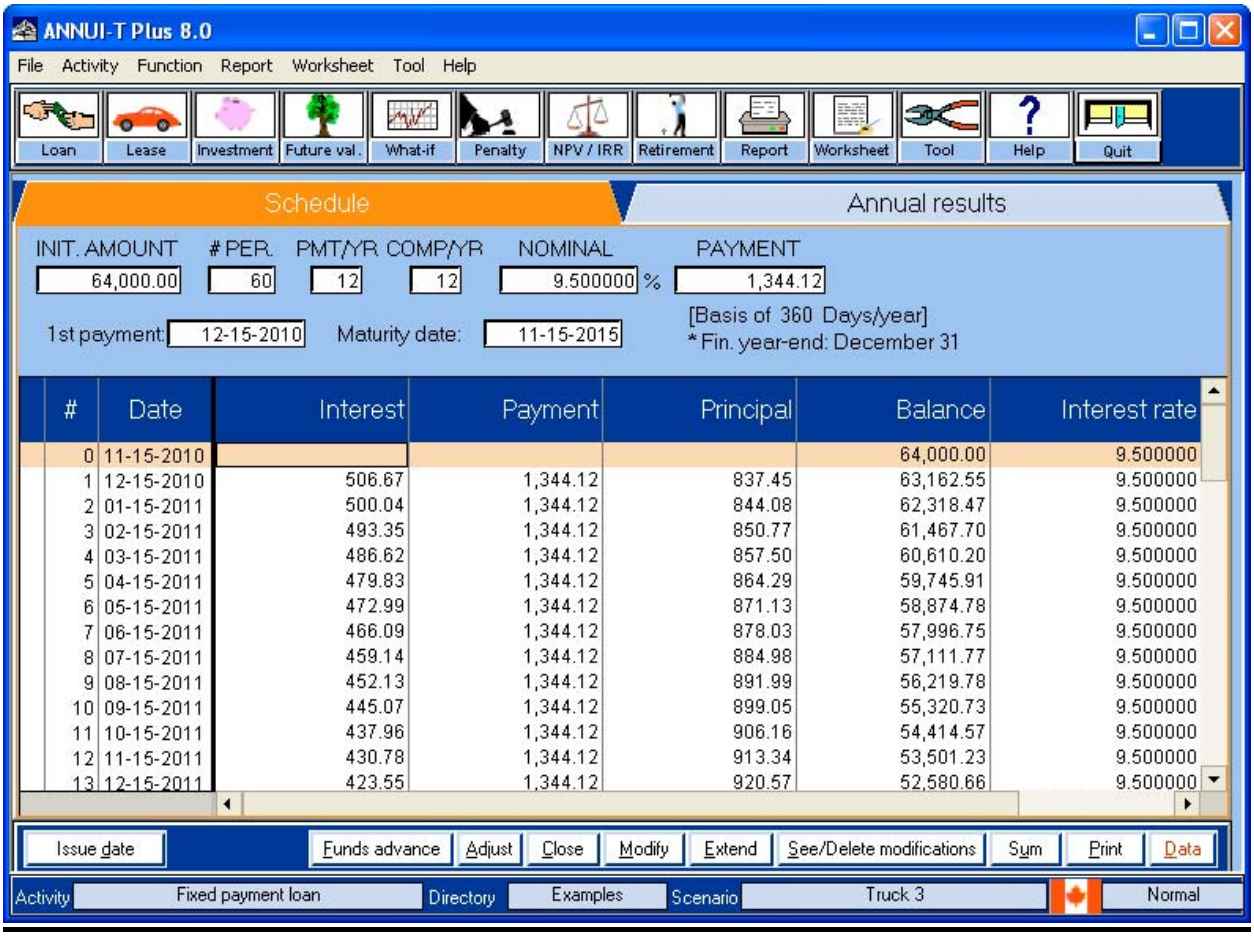



**Figure 4.05**
**Example of a loan amortization schedule**

### MOVING THROUGH THE SCHEDULE

To move through this kind of screen with the mouse, you can click on the scroll arrows, slide the scroll bar or click over or under the scroll bar. You can also use the arrow keys, PAGE UP, PAGE DOWN, HOME and END.

### "SCHEDULE"

This tab lets you return to the schedule when the annual results are displayed.

**“ANNUAL RESULTS”**

This tab is used to generate the report of annual results. For example, in the case of a loan, this report displays, for each related year, the total payments, the total interests, the total principal repayments and the balance. These results do not include accrued interest but this can be calculated with another procedure that is explained later.

When printing the schedule, the annual results are also printed. Nevertheless, the tab *“Annual results”* has the advantage to isolate these results in a summary report.

By default, the annual results are calculated and presented on the basis of the financial year-end. However, you can choose any other basis by clicking on *“Change date”*.

**Note that when you print a schedule, the annual results are always calculated according to the selected date used to generate the annual results report.**

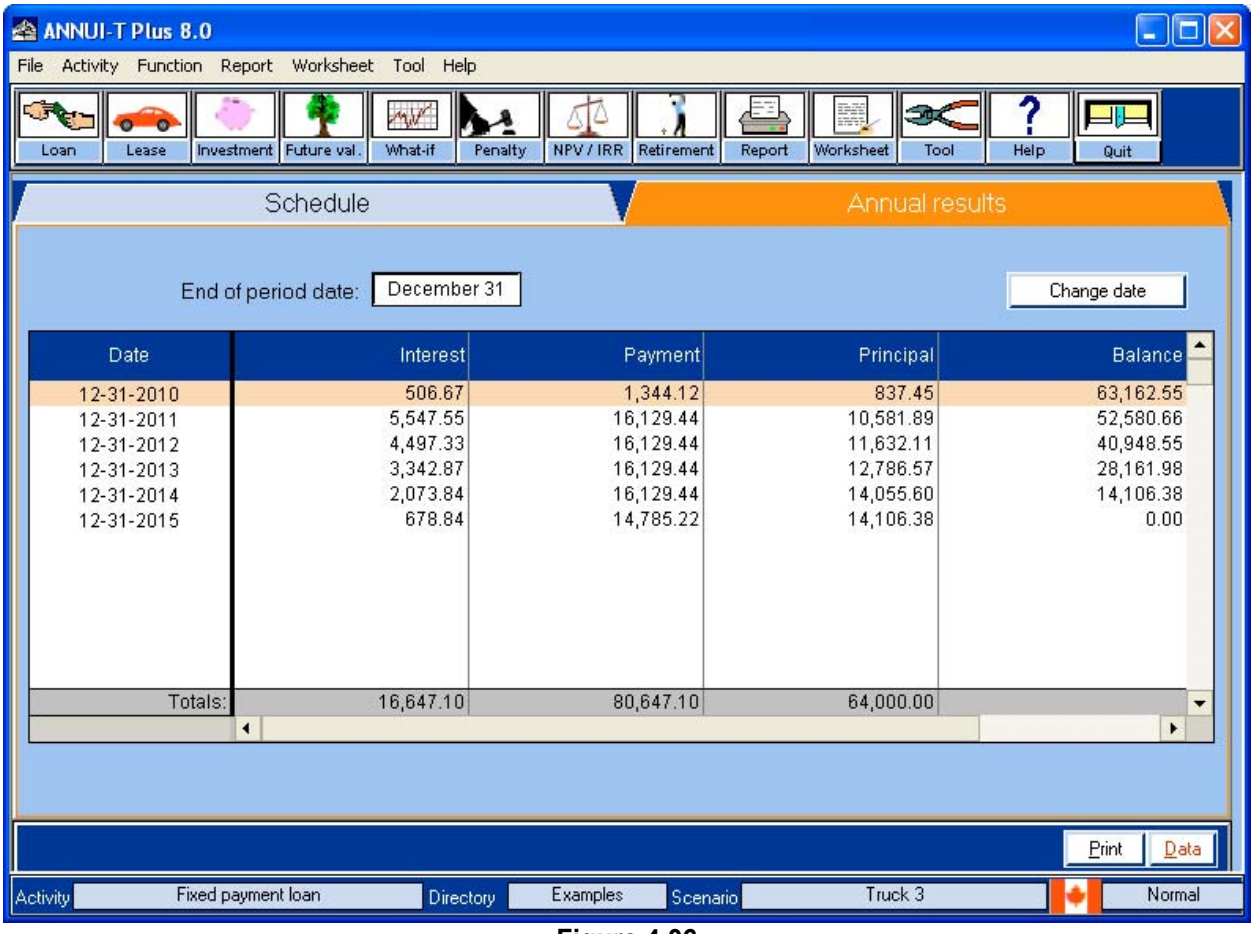

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Schedule
Annual results
End of period date: December 31
Change date
Date Interest Payment Principal Balance
12-31-2010 506.67 1,344.12 837.45 63,162.55
12-31-2011 5,547.55 16,129.44 10,581.89 52,580.66
12-31-2012 4,497.33 16,129.44 11,632.11 40,948.55
12-31-2013 3,342.87 16,129.44 12,786.57 28,161.98
12-31-2014 2,073.84 16,129.44 14,055.60 14,106.38
12-31-2015 678.84 14,785.22 14,106.38 0.00
Totals: 16,647.10 80,647.10 64,000.00
Print Data
Activity Fixed payment loan Directory Examples Scenario Truck 3 Normal

**Figure 4.06**
**Example of the annual results report**

**“ISSUE DATE”**

This function allows you to modify the starting date of a loan or a lease (not applicable when the option “Beginning of period payment” is selected).

It happens sometimes that the first period of interest calculation is irregular. For example, a lender could advance the funds on February 10th, 2012 and decide, with the borrower, that the monthly payment would start on March 1st, 2012.

In this particular case, the first period of interest has fewer days than normal but in other cases, the number of days in the first period exceeds the normal number of days according to the chosen payment frequency.

As explained before, with the ANNUI-T program, in the data entry window, you have to enter the date of the first payment. In our example, because the payments are monthly and start on March 1st, 2012, by default, ANNUI-T assumes that the issue date is February 1st, 2012 but the function *“Issue date”* allows you to modify the starting date to enter the real date.

When the function *“Issue date”* is selected, the program displays the calendar. You then have to double-click on the desired date or to position the cursor on this date and press ENTER. Note that the selected date can not be more than 2 complete periods minus 1 day prior to the default date.

**“FUNDS ADVANCE”**

This function allows you to increase the balance of a loan or a lease at any given date. This is mostly used for loans with funds advanced by stages. For example, a lender could accept to lend $200,000.00 of which $150,000.00 would be advanced at the contract’s signature and $50,000.00 one year later.

With ANNUI-T, to register this kind of event, you always have to position the cursor on the line of the date of this supplementary funds advance **before** selecting *“Funds advance”*. Then, you simply enter the amount.

If this event occurs at an irregular date (not a normal date of payment), you first need to create this date using the *“Modify”* function to register an irregular payment of $0.

If you want to enter a funds advance and a balance adjustment at the same date, you must always register the funds advance first.

Note that, in the schedule, funds advances are listed at the right end, which is after the balance column. They are also listed when you select *“See / Delete Modifications”*.

Finally, a similar function exists for investment annuities and it is used for funds withdrawals.

**“ADJUST”**

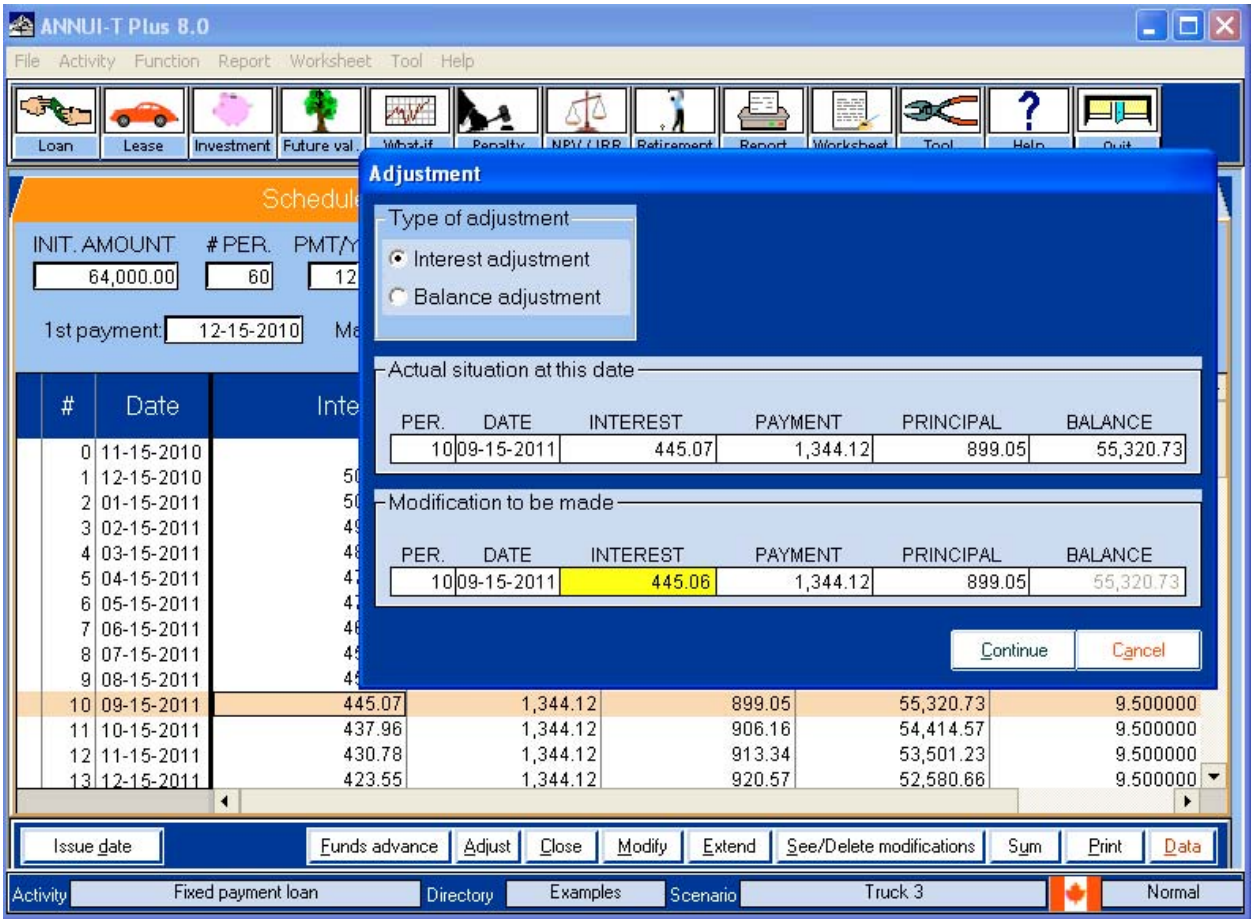

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Adjustment
Type of adjustment
Interest adjustment
Balance adjustment
Actual situation at this date
PER. DATE INTEREST PAYMENT PRINCIPAL BALANCE
10 09-15-2011 445.07 1,344.12 899.05 55,320.73
Modification to be made
PER. DATE INTEREST PAYMENT PRINCIPAL BALANCE
10 09-15-2011 445.06 1,344.12 899.05 55,320.73
Continue Cancel
INIT. AMOUNT # PER. PMT/Y
64,000.00 60 12
1st payment: 12-15-2010
# Date
10 09-15-2011 445.07 1,344.12 899.05 55,320.73 9.500000
11 10-15-2011 437.96 1,344.12 906.16 54,414.57 9.500000
12 11-15-2011 430.78 1,344.12 913.34 53,501.23 9.500000
13 12-15-2011 423.55 1,344.12 920.57 52,580.66 9.500000
Issue date Funds advance Adjust Close Modify Extend See/Delete modifications Sum Print Data
Activity Fixed payment loan Directory Examples Scenario Truck 3 Normal

**Figure 4.07**
**Screen for interest or balance adjustment**

This function enables you to adjust the interest or the balance at any given date. Very few programs allow these kinds of adjustments.

To proceed, you must position the cursor on the line of the amount you intend to modify **before** selecting the *“Adjust”* function. Then you have to indicate the type of adjustment (interest or balance). Another way is to double-click on the amount to modify in the schedule. Finally, you simply have to enter the desired amount.

Most of the time, this type of modification is made to adjust the results with those of a financial institution. One main reason that differences occur is because not all the financial programs use the same number of decimals.

Furthermore, in the schedule, ANNUI-T rounds off the numbers at 2 decimals. This is not the case of all financial programs. In fact, many calculators make amortization schedules without rounded payments, which is impossible in reality.

For these reasons, the possibility to adjust the interest or the balance is useful.

Note that for accounting purposes, you do not have to adjust the results at every period. The important thing is to register all the transactions and to be sure that the beginning balance and the year-end balance are the same as those of the lender. This way the total interest and the total principal repayments will be right. The only difference will be in the allocation of interest but this is less important on an annual basis.

It is also important to adjust the results **before** generating the reports ("Accrued interest", "5 year repayments", etc) in order to obtain a greater degree of accuracy.

The adjustment of the balance is not allowed for a loan with fixed principal payment because for this kind of loan, balance differences are not normal. Nevertheless, you can affect the balance with the *"Modify"* function by changing the amount of the fixed principal remittance.

Also, balance adjustment is not allowed on the date of an interest only payment because it is impossible to affect the balance with this kind of payment. In this case, you have to adjust the balance on the previous date.

The same rule applies for a date of an ignored transaction (skipped payment without updating the interest). Once again, the adjustment should be done at the previous date.

Finally, the adjustment procedure is not allowed at the closing date of a scenario except with the *"Close"* function.

**“CLOSE”**

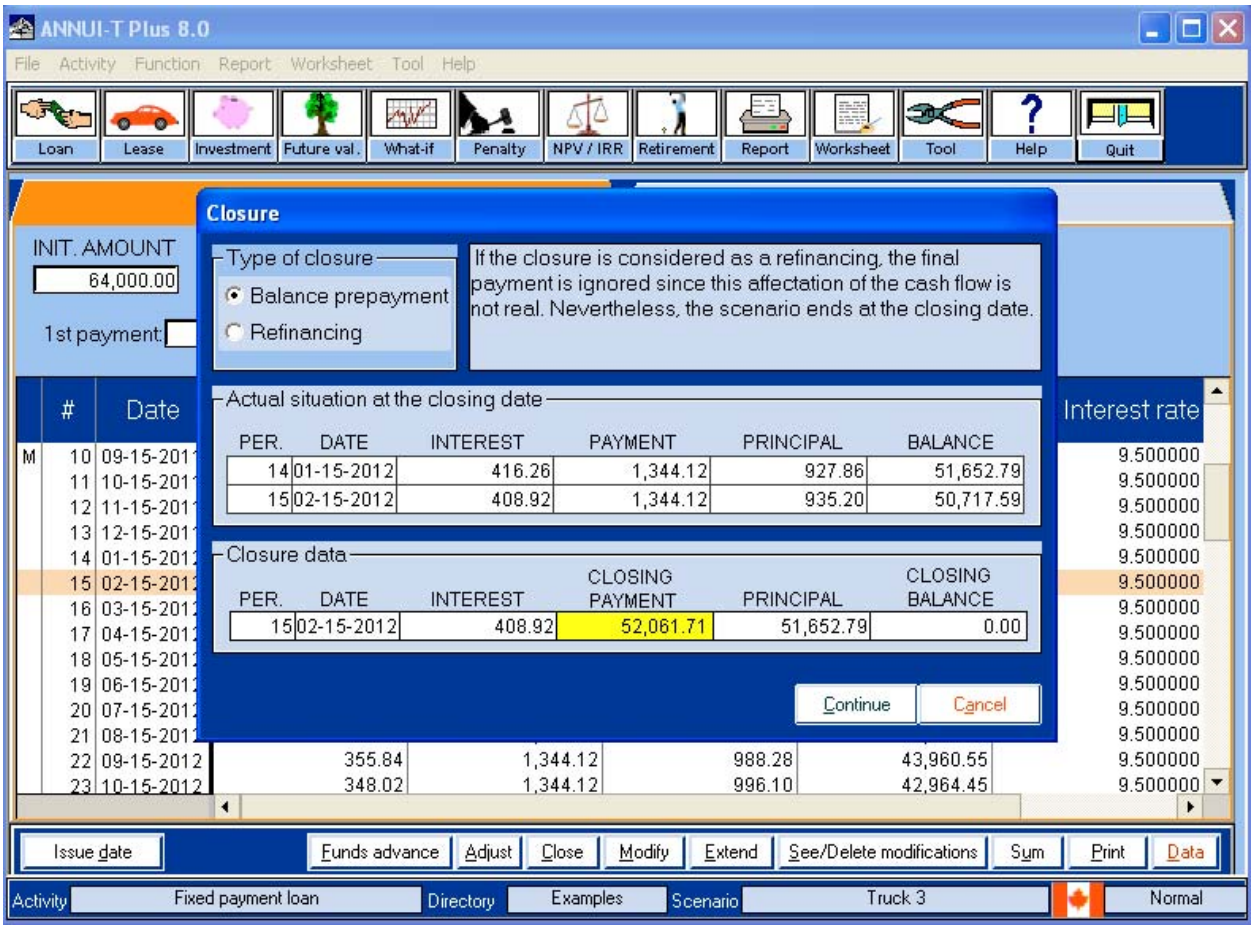



**Figure 4.08**
**Closing procedure window**

This procedure allows you to close the scenario before the maturity date. You have to position the cursor on the line of the closure date **before** selecting *“Close”*. Another way is to double-click on the date for this modification in the schedule.

Note that if the date does not exist in the schedule, you then have to use the *“Modify”* function, selecting “Irregular payment” and entering 0 as the amount. Of course, the purpose of this modification is only to create the irregular date. The modification will not be effective with the closure of the scenario.

As you can see in figure 4.08, for a loan or a lease, you have the choice between a **prepayment of the balance** and a **refinancing**.

In the case of a prepayment of the balance, you can always enter the amount of the final payment. In other words, if there is a difference between the final payment charged by the financial institution and the one calculated by ANNUI-T, you can modify this amount. Note that sometimes lenders charge closing fees.

In the case of a refinancing, the scenario ends at the closing date but the final payment of the balance is ignored since this affectation of cash flow is not real. The program allows you to modify the closing balance if needed. However, this kind of adjustment is denied for a fixed principal payment loan because the only way to modify the balance of this type of loan is to use the *"Modify"* function to change the amount of the fixed principal remittance.

Finally, for a lease contract, the closing procedure can also be used to re-enter the buy back option that has been deleted with the *"Extend"* function.

On the following illustrations, you will find 2 examples of a closure. The first one represents a prepayment of the balance. The second one illustrates a refinancing. Notice that in both cases, the initial duration was 60 periods and a closure occurred on the 15th period.

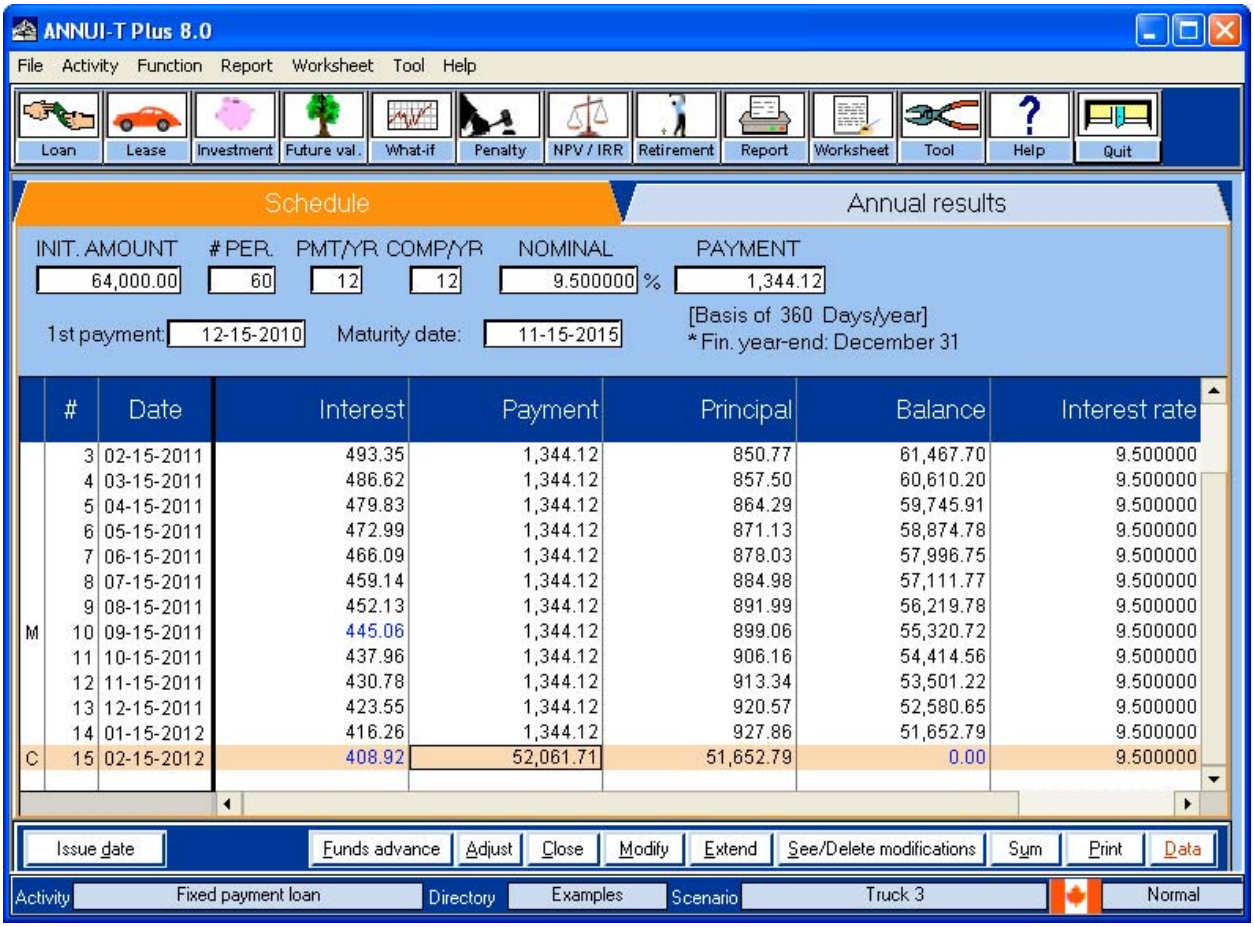



**Figure 4.09:**
**Prepayment of the balance**

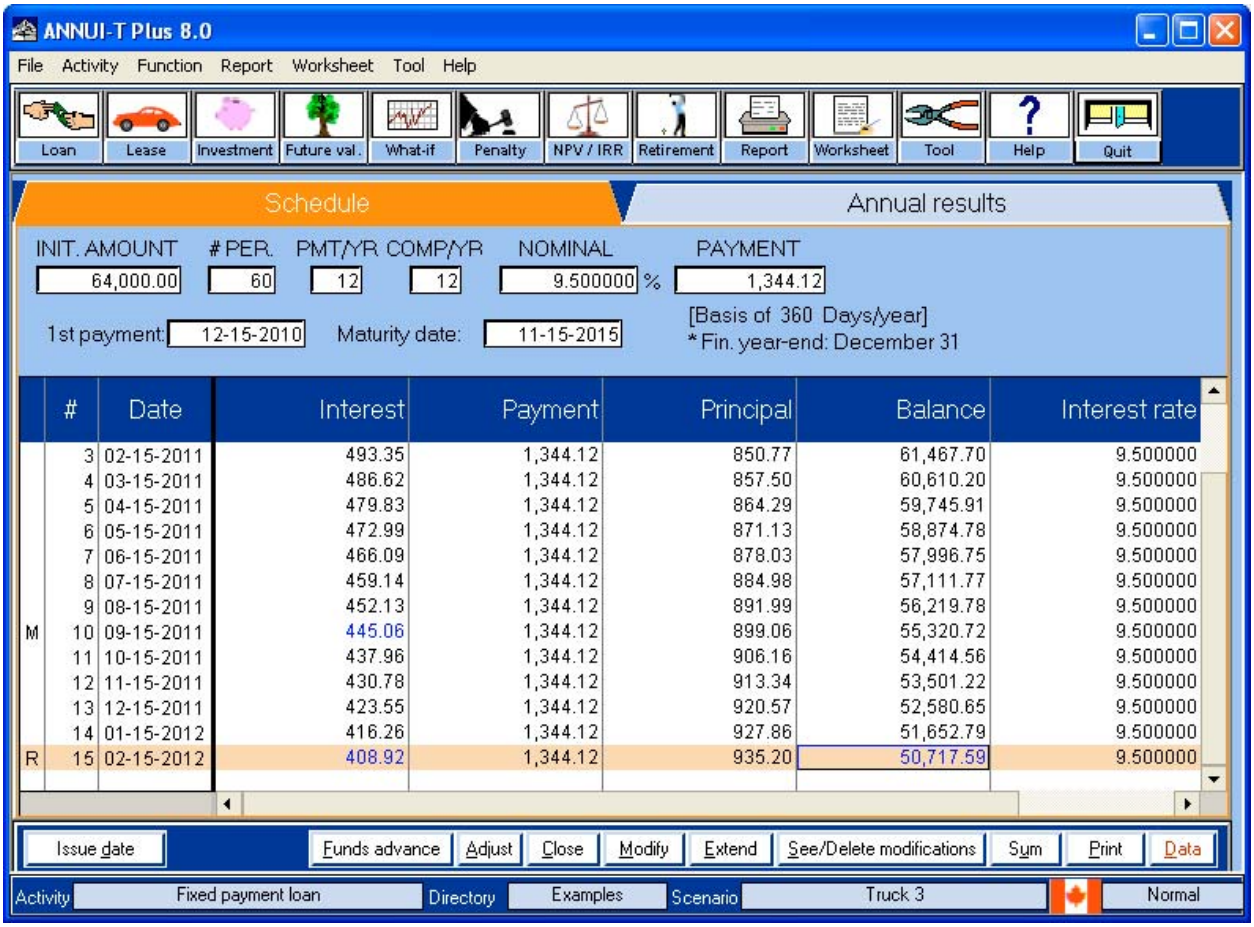



**Figure 4.10:**
**Refinancing**

**"MODIFY"**

This option enables you to change the payment or the interest rate for one or more periods. When you select the *"Modify"* function, a screen is displayed so that you can enter the starting date of the modification. By default, this date is the one identified by the cursor when the *"Modify"* function was activated but you can always enter another date. Thereafter, the program displays the modification window. To activate the *"Modify"* function, you can also double-click on the payment amount to modify in the schedule or double-click on the interest rate.

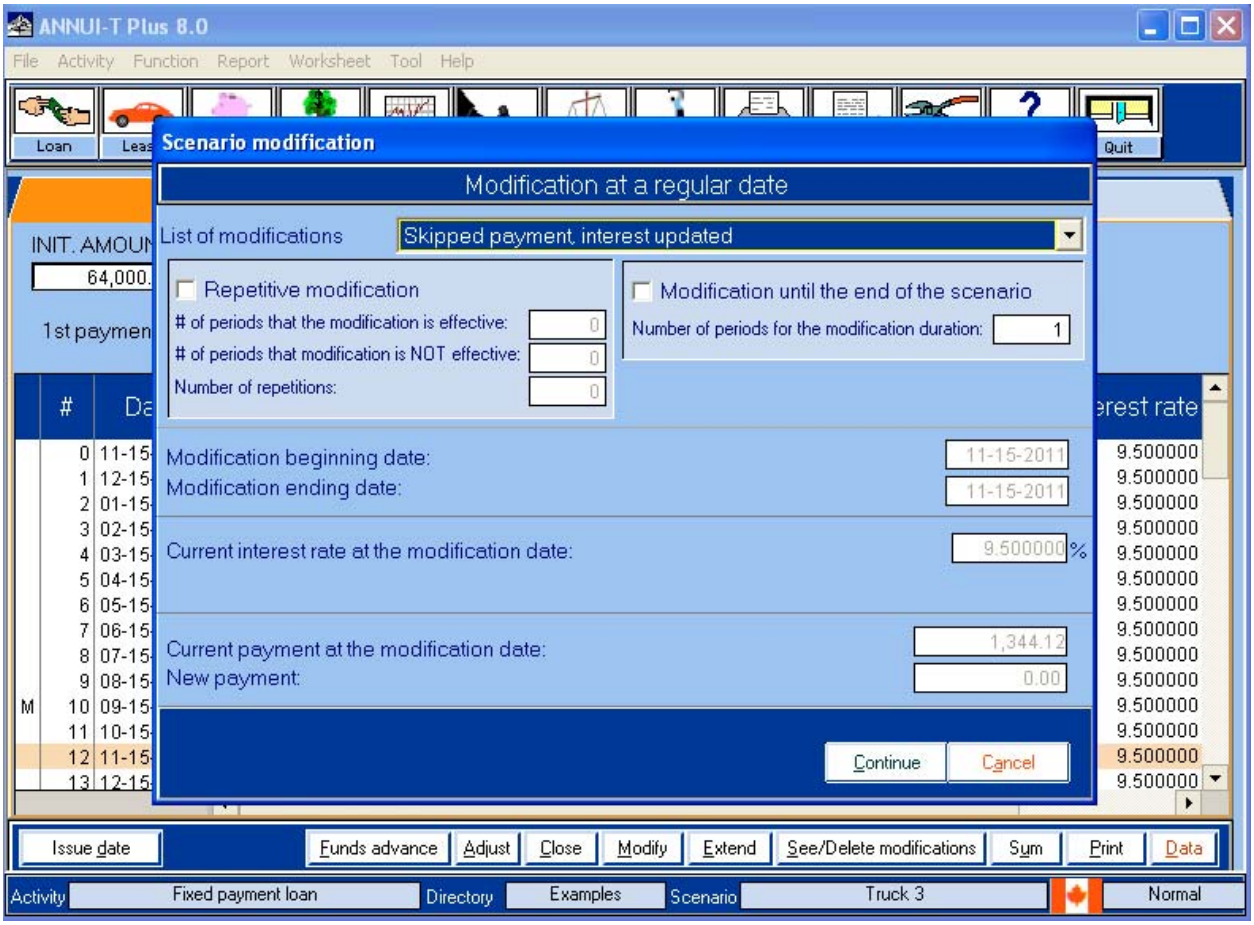



**Figure 4.11**
**Modification window**

In the modification window, first you have to select, from the pop-up list, the kind of modification. The multiple choices depend on the type of the scenario. For example, the choices for a loan are not exactly the same as for an investment annuity, which is normal.

In addition, the possibilities are different for a modification starting on a regular date and one starting on an irregular date. **Note that an "irregular" date is a date that is not a normal date of payment according to the payment frequency.**

Let us take the case of a loan with payment to be made on the first day of each month. If a late payment occurs, for example in the middle of a month, then the date is considered to be an irregular date because the day of transaction differs from the normal day of payment.

As mentioned before, the *"Modify"* function allows you to make 2 types of modifications.

First, there are modifications related to the **payment** where you can change the amount, choose an interest only payment or a principal only payment. You can also select a skipped payment with or without updating the interest.

Note that a skipped payment **without** updating the interest means that for this transaction date, the interest calculation is simply **postponed** to the next transaction date.

A skipped payment without updating the interest is mainly used in the case of a late payment because some lenders postpone interest calculation to the next payment date instead of capitalizing the interest. This way, the interest of the next date is calculated on the number of elapsed days since the last interest calculation.

For most of the financial institutions, the date of a skipped payment without an update of the interest does not appear on the statement. Nevertheless, ANNUI-T always displays such event in order to highlight it.

The second type of modification that the *"Modify"* function allows you to make is a **change of the interest rate**. Remember that to make this type of modification, you can also double-click on the interest rate to modify in the schedule.

Notice that the impact of an interest rate change starts only at the **next** period since interest calculation is always made according to the interest rate of the **previous** period.

For example, if the payment frequency is monthly and the interest rate changes in January, this will affect the interest of February.

The program also allows you to change the interest rate at an irregular date, which is often useful for a fixed principal payment loan.

In fact, for a fixed principal payment loan, the payment varies from one period to another and the interest rate is often floating. For example, the interest rate could be 2% over the prime rate. Thus, the rate can change at anytime.

As fixed payment loans are concerned, a change of interest rate usually occurs at the time of a refinancing. As mentioned before, ANNUI-T allows you to take into account refinancing (for details, see *"Close"*). However, even for this kind of loan, the program lets you change the interest rate. For more information, see "Interest rate modification for a fixed payment scenario" in the section "Particularities of modifications".

Once the kind of modification is selected, if it is the case, you can check the box "Repetitive modification". This option is used for modifications that occur periodically.

Let us take the case of a mortgage with monthly payments that permits the borrower to prepay, once a year, on the anniversary date, up to 15 % of the initial mortgage amount. Suppose that we would like to analyze the possibility of paying, once a year, $1,000.00 over the regular monthly amount.

Of course, these repetitive modifications can be done one by one but this could take a considerable amount of time. Fortunately, ANNUI-T allows you to do this kind of task automatically. For more information, see "Repetitive modification" in the section "Particularities of modifications".

When the modification is not repetitive, you have to indicate the duration of the modification.

If the modification is effective until the end of the scenario, simply click on "Modification to the end of the scenario". This implies that the modification will end on the period that is preceding the last period because no modification is allowed on the last period, except an adjustment of closure.

In fact, in the case of a loan or a lease, the last period is reserved for the final payment of the balance. For an investment annuity, the last period serves only to calculate the final interest, which is the interest on the balance following the last deposit.

If the modification does not last until the end of the scenario, you must then enter the number of **regular** periods that this modification will be effective. In other words, **irregular dates must not be considered in the duration of a modification**.

Notice that if a modification occurs on an **irregular** date, the duration is always only one period since it is an isolated event. Thus, in these circumstances, the program automatically sets the duration to one period only and denies the change of this value.

Once the duration of the modification is entered, you have to indicate the "New payment" and/or the "New interest rate", depending on the type of modification.

For more details on the modifications, see "Particularities of modifications".

**"EXTEND"**

This procedure allows you to extend the duration of a scenario. For a loan, an extension could become necessary when one or more payments were modified for lower amounts without any other compensation.

For example, if a skipped payment has occurred on a certain date, the payment amount of the last period will be superior to the regular amount (case of balloon payment). In this kind of situation, the program replaces the balloon payment by amortizing the balance until the loan is completely paid off.

In the case of a lease, even the buy back option is amortized. However, you can always re-enter the buy back option with the *"Close"* function because a buy back option is, in some way, a kind of prepayment of the balance.

Finally, for an investment annuity, you can extend the scenario by the desired number of periods as long as the total duration of the scenario does not exceed 1305 periods.

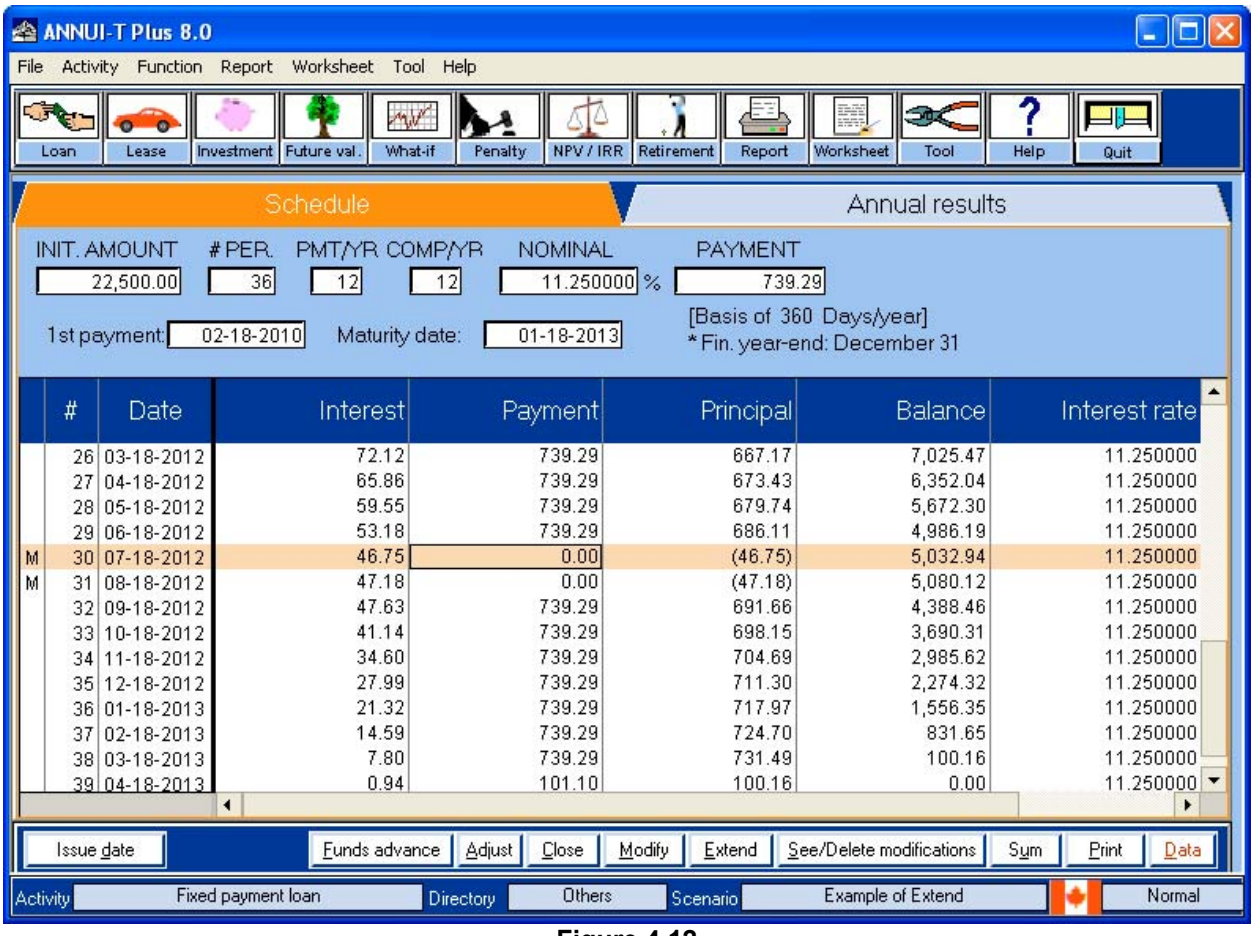



**Figure 4.12**
**Example of a scenario extension**

Figure 4.12 illustrates an example of a scenario extension. In this case, originally, the loan was amortized over 36 months. As you can see, 2 skipped payments occurred (on the 30th and the 31st periods). To avoid the balloon payment, the lender has agreed to extend the duration of the loan to 39 periods.

**"SEE / DELETE MODIFICATIONS"**

This function displays the list of the funds advances (or funds withdrawals in the case of an investment annuity) and the modifications affecting the schedule (skipped payment, change of interest rate, etc).

It is also from this window that you can erase these kinds of schedule modifications. To do so, double-click on the line to delete. An "X" then appears at the beginning of this line. Note that there is also an icon to erase all the changes made previously in the schedule. **The deletion is done when you exit the window by clicking on *"Quit".*** To cancel a deletion, double-click on the same line again.

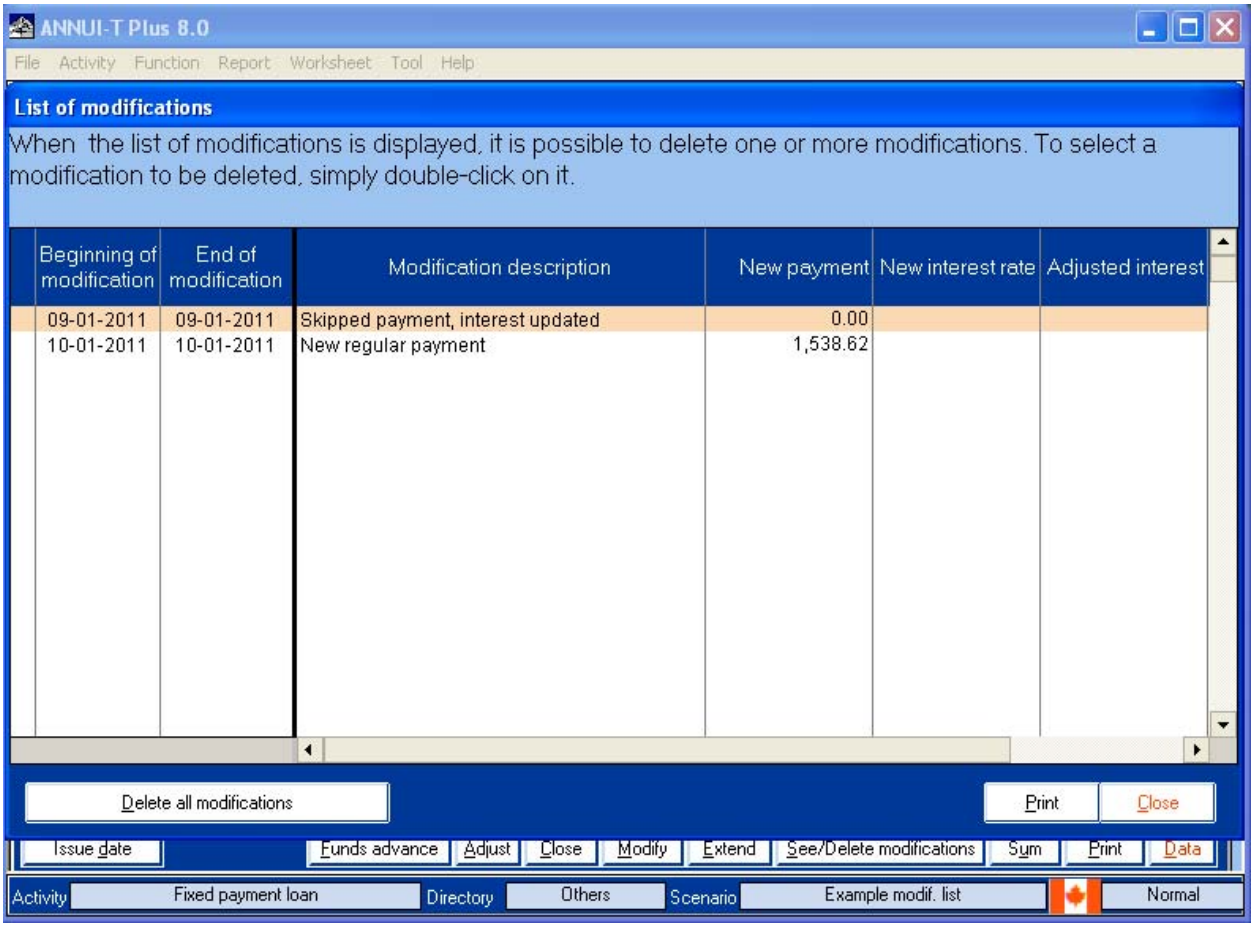



**Figure 4.13:**
**Example of the "See / Delete modifications" window**

**"SUM"**

When a schedule is displayed, this function allows you to calculate the sum of interests, the sum of payments and the sum of principal or principal variations for any given interval.

Furthermore, for annuities (loans, leases and investments), the software calculate implicit rates (nominal and effective). Therefore, when the interest rate changes, this new function permits you to calculate the combined rate. **For example, in Canada, this is useful for accountants to display, in the financial statements, effective rate for financial instruments according to CICA Handbook section 3860**. Note that this function is also available in the Combine / Summary report.

Notice that you have to position the cursor on the line representing the starting point of the addition **before** clicking on *"Sum"*. Then, you can define the desired interval of calculation by highlighting with either the mouse, the arrow keys, PAGE UP, PAGE DOWN, HOME or END.

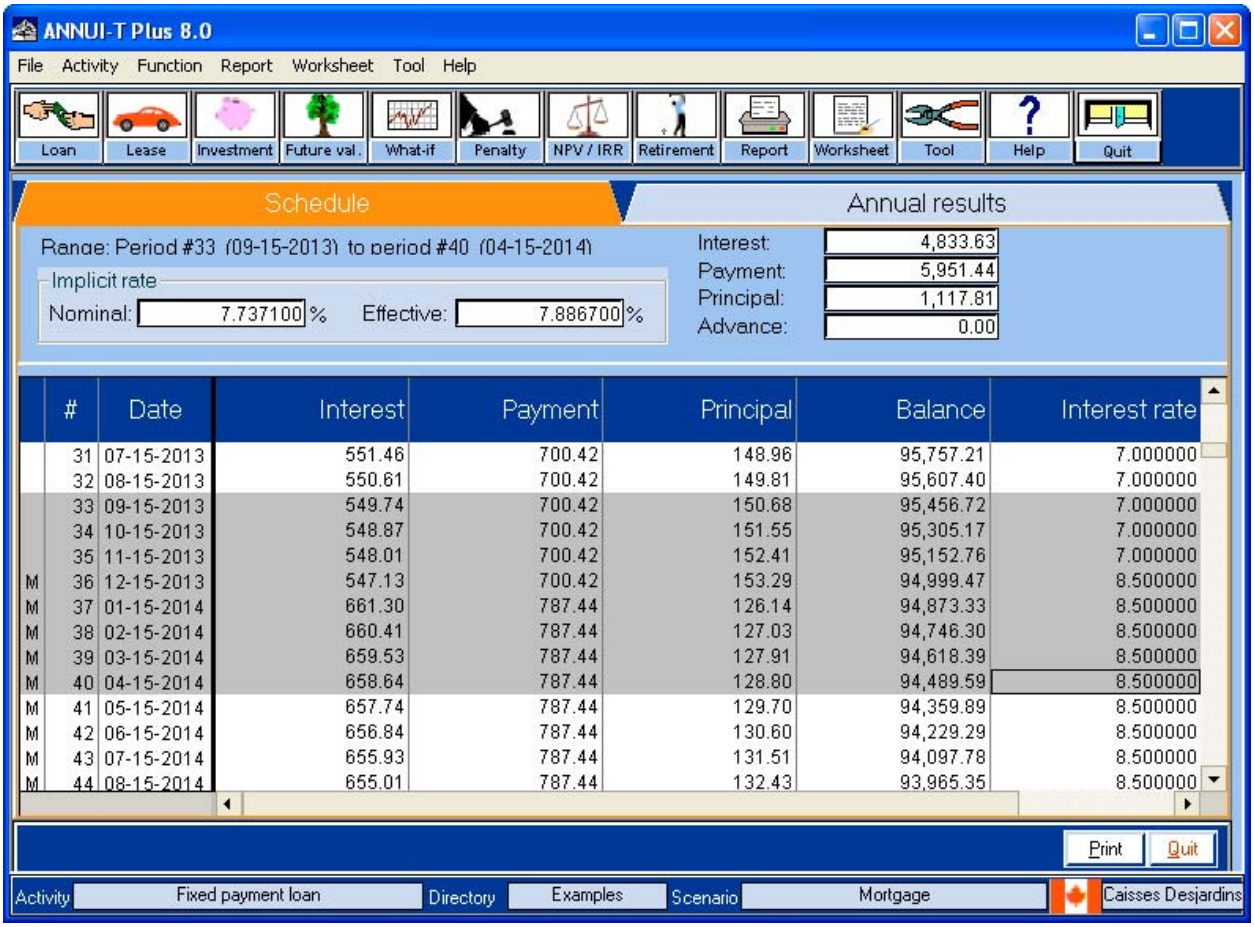



**Figure 4.14**
**Example of the "Sum" function**

**"PRINT"**

This function allows you to print the schedule, for example, a loan amortization schedule.

You always have to position the cursor on the first line to be printed **before** selecting *"Print"*. For example, if you wish to print from the beginning of the schedule, you must position the cursor on the line of the "period 0". In this case, the fastest way is to press HOME.

When you select *"Print"*, you have to indicate which line will be the last to be printed. You can click on this line or move the cursor with the arrow keys, PAGE UP, PAGE DOWN or END. The range to be printed is highlighted.

Once the print range is defined, you have to click on *"Confirm print range"* at the bottom of your screen. The program will then display the printing window. For more details on this window, refer to the *"Print"* function explanation in the section "Data entry window".

**"DATA"**

This option is used to return to the data entry window, which gives you access to other functions such as *"Open"*, *"Save"*, *"Delete"*, etc.

## REPORTS

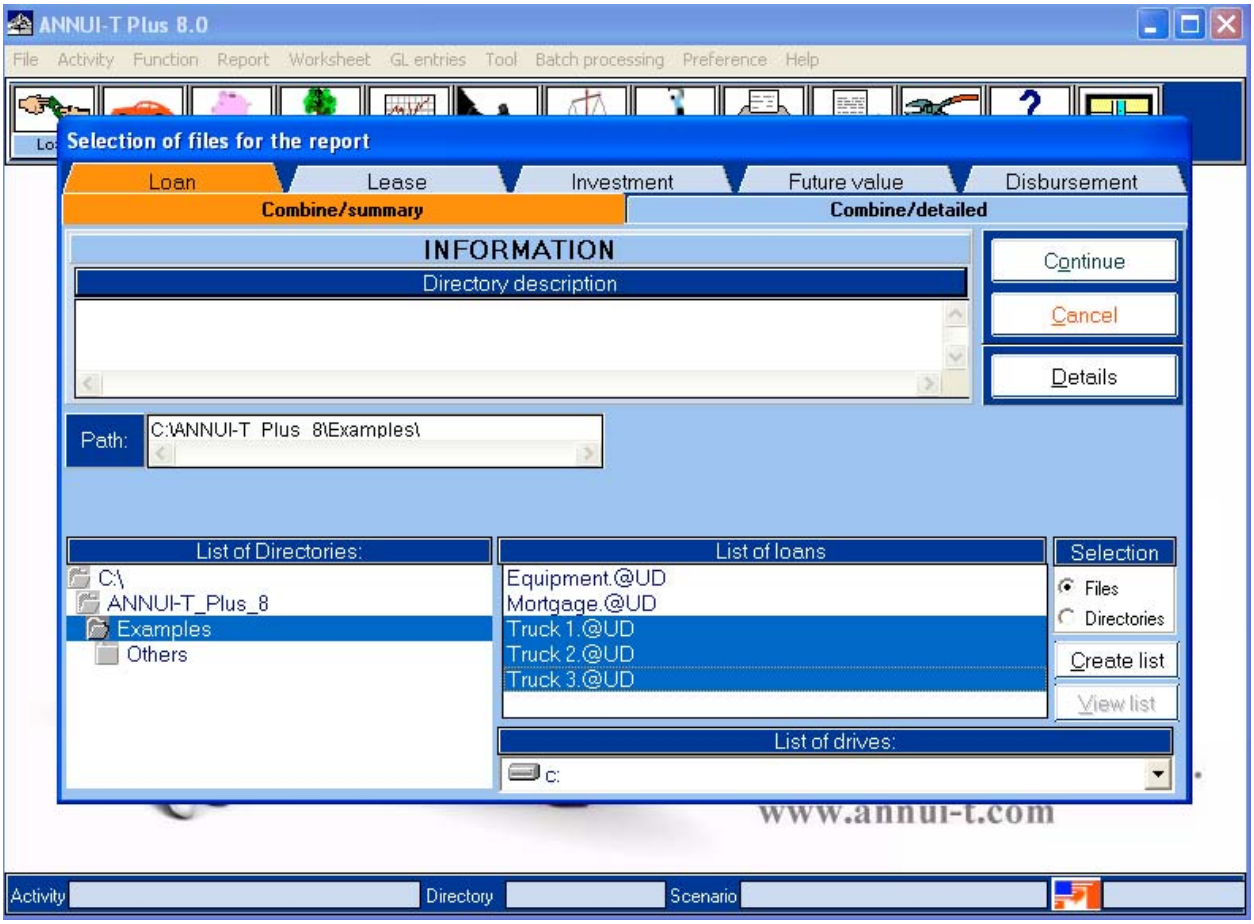



**Figure 4.15**
**Reports selection window**

### PROCEDURE FOR REPORTS

First, you have to indicate the type of scenario (loan, lease, investment or future value) and the desired report by clicking on the corresponding tabs. Secondly, you must indicate the disk drive and the directory containing the scenarios to be used for the report. Thirdly, you have to select the scenarios. If you want to see the description of a scenario, click on *"Details".*

To make the selection, keep and hold the CTRL key and click on each of the desired scenarios. Remember that if the scenarios are consecutive in the list, you can save time proceeding by range. You simply have to click on the first scenario to be considered, hold down the SHIFT key and click on the last scenario of the group.

If you want to select files from different directories, once the selection is done for the first directory, you must click on *"Create list"*. Then, for each of the desired directories, you have to select the scenarios and click on *"Add"*. To look at the list of selected scenarios, simply click on *"View list"*. Note that it is always possible to remove scenarios from this list.

In addition, the user may also select all scenarios in a directory by clicking on *"Directories"* and *"Add"*.

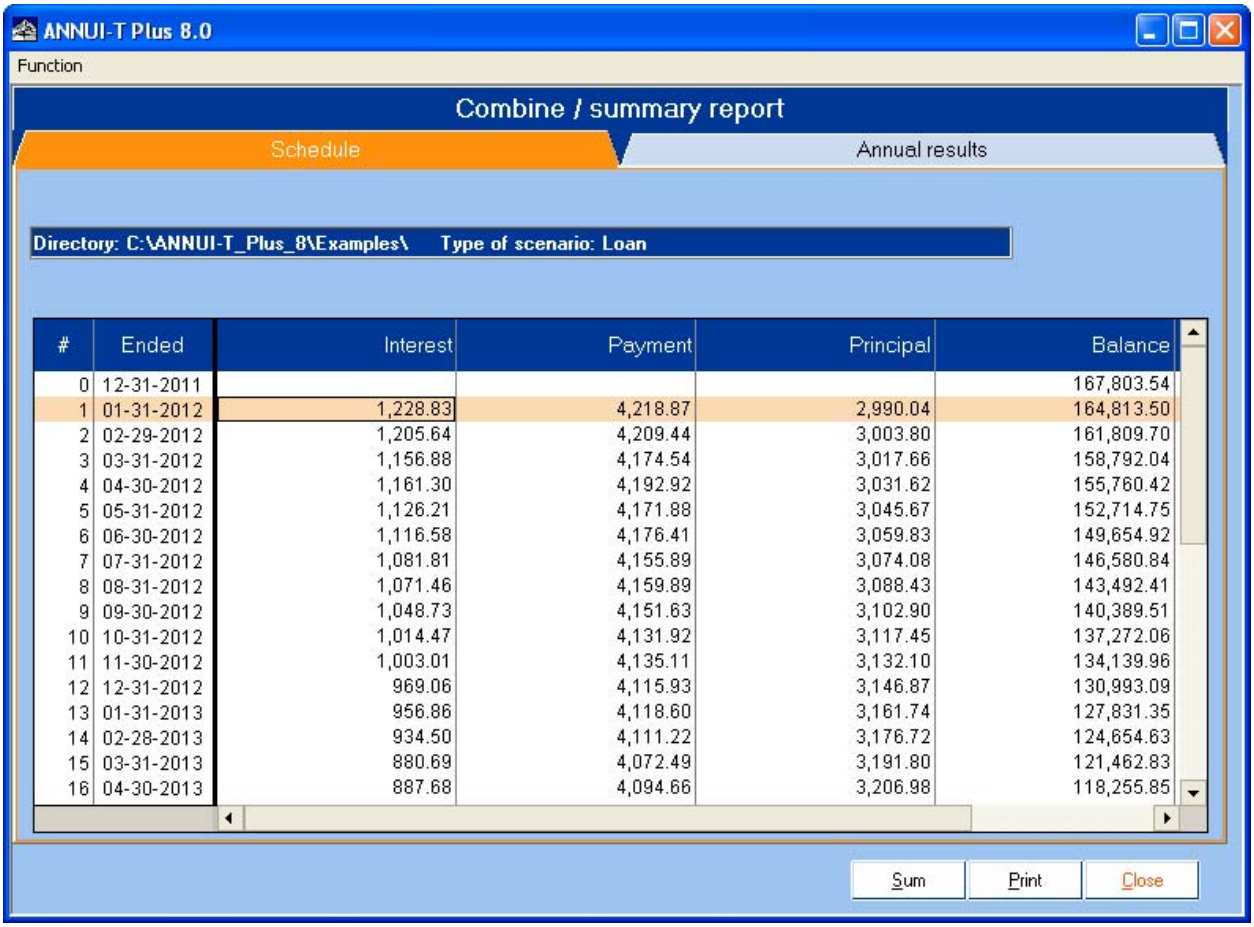
Once the selection is done, click on *"Continue"*.

## "COMBINE / SUMMARY" AND "COMBINE / DETAILED"

These functions allow you to compile the **consolidated results** of a group of scenarios. These kinds of reports are often useful for financial projections such as budgets.

Six (6) frequencies are possible (semi-annual, quarterly, monthly, every 13 weeks, every 4 weeks and weekly). For the report, you can choose a duration of 1 to 10 years. The results can be presented in 2 different forms.

First, there is the **summary** report (*"Combine / summary"*).

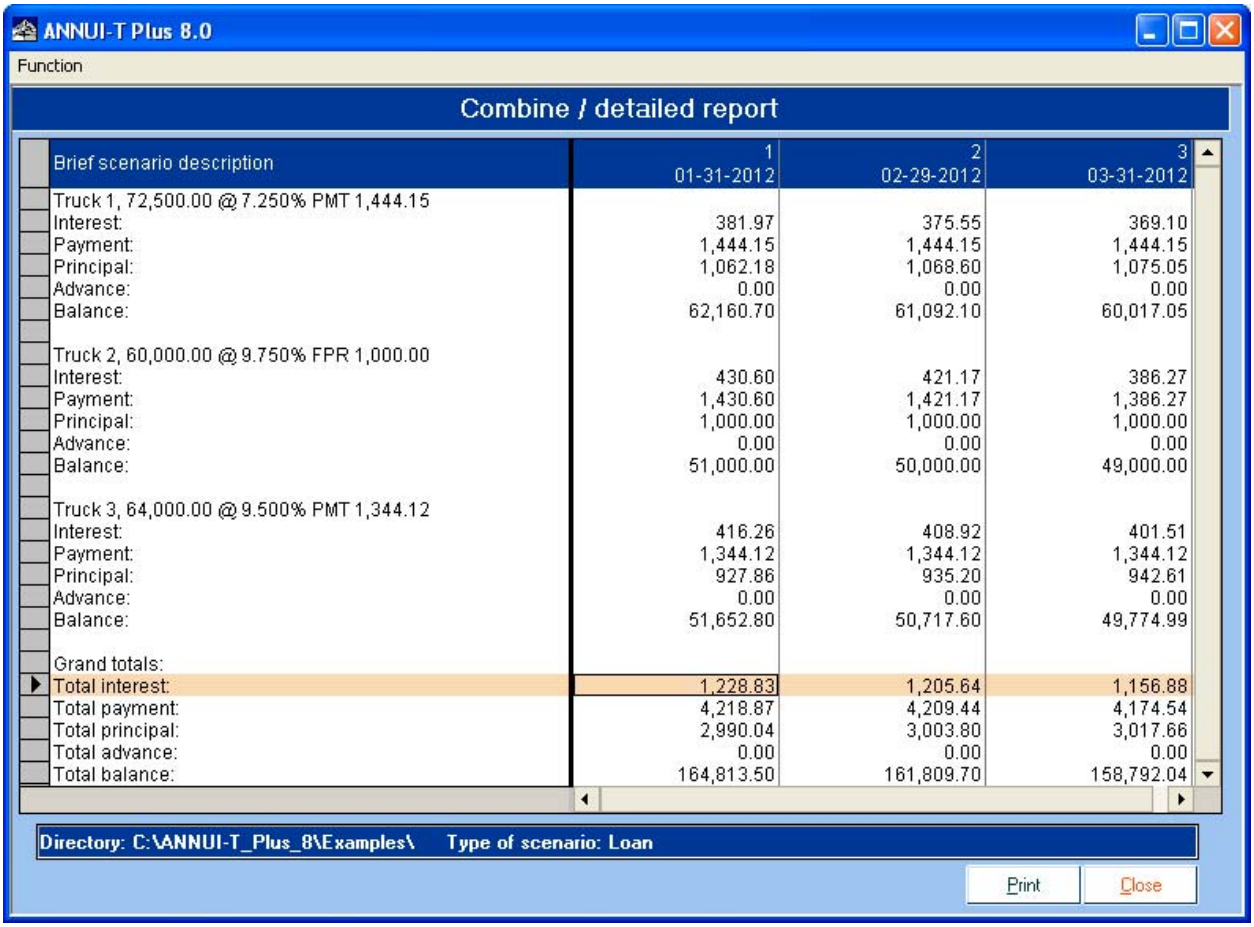



| # | Ended | Interest | Payment | Principal | Balance |
|---|---|---|---|---|---|
| 0 | 12-31-2011 | | | | 167,803.54 |
| 1 | 01-31-2012 | 1,228.83 | 4,218.87 | 2,990.04 | 164,813.50 |
| 2 | 02-29-2012 | 1,205.64 | 4,209.44 | 3,003.80 | 161,809.70 |
| 3 | 03-31-2012 | 1,156.88 | 4,174.54 | 3,017.66 | 158,792.04 |
| 4 | 04-30-2012 | 1,161.30 | 4,192.92 | 3,031.62 | 155,760.42 |
| 5 | 05-31-2012 | 1,126.21 | 4,171.88 | 3,045.67 | 152,714.75 |
| 6 | 06-30-2012 | 1,116.58 | 4,176.41 | 3,059.83 | 149,654.92 |
| 7 | 07-31-2012 | 1,081.81 | 4,155.89 | 3,074.08 | 146,580.84 |
| 8 | 08-31-2012 | 1,071.46 | 4,159.89 | 3,088.43 | 143,492.41 |
| 9 | 09-30-2012 | 1,048.73 | 4,151.63 | 3,102.90 | 140,389.51 |
| 10 | 10-31-2012 | 1,014.47 | 4,131.92 | 3,117.45 | 137,272.06 |
| 11 | 11-30-2012 | 1,003.01 | 4,135.11 | 3,132.10 | 134,139.96 |
| 12 | 12-31-2012 | 969.06 | 4,115.93 | 3,146.87 | 130,993.09 |
| 13 | 01-31-2013 | 956.86 | 4,118.60 | 3,161.74 | 127,831.35 |
| 14 | 02-28-2013 | 934.50 | 4,111.22 | 3,176.72 | 124,654.63 |
| 15 | 03-31-2013 | 880.69 | 4,072.49 | 3,191.80 | 121,462.83 |
| 16 | 04-30-2013 | 887.68 | 4,094.66 | 3,206.98 | 118,255.85 |

**Figure 4.16**
**Example of the "Combine / summary" report**

As shown in figure 4.16, the *"Combine / summary"* report is similar to the normal schedule except that the results are consolidated on the chosen frequency (for example, on a monthly basis). Indeed, you can use the *"Sum"* function to add up the results and calculate implicit rates within a desired interval. You can also obtain the annual results based on the financial year-end or on any other desired date.

The second form of the report is the **detailed** version (*"Combine / detailed"*).




| Brief scenario description | 1<br>01-31-2012 | 2<br>02-29-2012 | 3<br>03-31-2012 |
|---|---|---|---|
| Truck 1, 72,500.00 @ 7.250% PMT 1,444.15 | | | |
| Interest: | 381.97 | 375.55 | 369.10 |
| Payment: | 1,444.15 | 1,444.15 | 1,444.15 |
| Principal: | 1,062.18 | 1,068.60 | 1,075.05 |
| Advance: | 0.00 | 0.00 | 0.00 |
| Balance: | 62,160.70 | 61,092.10 | 60,017.05 |
| | | | |
| Truck 2, 60,000.00 @ 9.750% FPR 1,000.00 | | | |
| Interest: | 430.60 | 421.17 | 386.27 |
| Payment: | 1,430.60 | 1,421.17 | 1,386.27 |
| Principal: | 1,000.00 | 1,000.00 | 1,000.00 |
| Advance: | 0.00 | 0.00 | 0.00 |
| Balance: | 51,000.00 | 50,000.00 | 49,000.00 |
| | | | |
| Truck 3, 64,000.00 @ 9.500% PMT 1,344.12 | | | |
| Interest: | 416.26 | 408.92 | 401.51 |
| Payment: | 1,344.12 | 1,344.12 | 1,344.12 |
| Principal: | 927.86 | 935.20 | 942.61 |
| Advance: | 0.00 | 0.00 | 0.00 |
| Balance: | 51,652.80 | 50,717.60 | 49,774.99 |
| | | | |
| Grand totals: | | | |
| Total interest: | 1,228.83 | 1,205.64 | 1,156.88 |
| Total payment: | 4,218.87 | 4,209.44 | 4,174.54 |
| Total principal: | 2,990.04 | 3,003.80 | 3,017.66 |
| Total advance: | 0.00 | 0.00 | 0.00 |
| Total balance: | 164,813.50 | 161,809.70 | 158,792.04 |

**Figure 4.17**
**Example of the "Combine / detailed" report**

In the first column, you have titles and the name of every selected scenario. Each of the following columns represents a period on the basis of the chosen frequency (a month, a semester, etc). In these columns, for each of the scenarios, you have the periodical results (interests, payments and principal or principal variations). At the bottom of each column, the periodical total is displayed.

**Note that the periodical totals correspond to the amounts displayed in the *"Combine / summary"* report.**

There is also a column for yearly results. For example, if the chosen frequency is monthly, after 12 columns, the annual results are displayed. Finally, at the right end, you have the grand total.

## PARTICULARITIES OF MODIFICATIONS

### MODIFICATION CONFLICTS

When you modify the schedule, sometimes a window appears to warn you of a **"conflict"** of modifications. Most of the time, this occurs when the new modification overlaps an existing modification of the same type.

For example, if at a certain date, you have entered a change of payment and you now want to enter a skipped payment, you will be warned of a conflict and asked to make a choice, which is normal, both modifications affecting the payment.

Logically, the new modification has priority over the previous one. Nevertheless, ANNUI-T always asks you to confirm the new modification in case of an error.

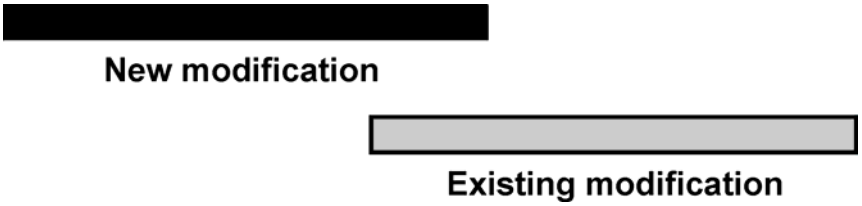
In these circumstances, a window appears to list all the modifications that are in conflict with the new modification. In this screen, you have a brief description of each of the modifications in conflict, the starting and the ending date of the conflict, the duration of the conflict and the type of the conflict, since there are 5 possible conflict cases.

**If you select "Continue", every conflicting modification will be shortened or deleted according to the conflict case.**

Note that there are 4 different kinds of overlapping modifications, each one representing a **"case"** of conflict.

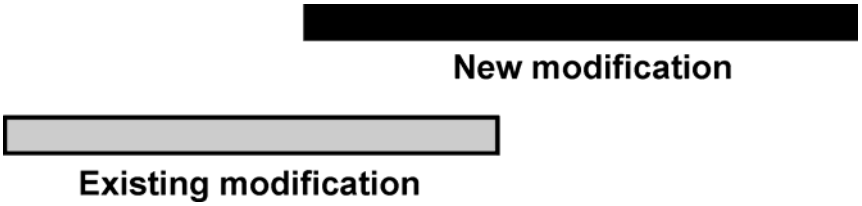
In order to facilitate the understanding of the conflicts, you can compare a modification to an horizontal segment which length is proportional to the duration in periods. The intersection of 2 segments represents a conflict.

When the new modification **overlaps the beginning** of an existing modification, there is a **"case 1"** conflict. In this situation, the existing modification will be shortened to give priority to the new modification. In other words, the existing modification will begin at the first regular date following the ending date of the new modification. The following is an example of a "case 1" conflict:

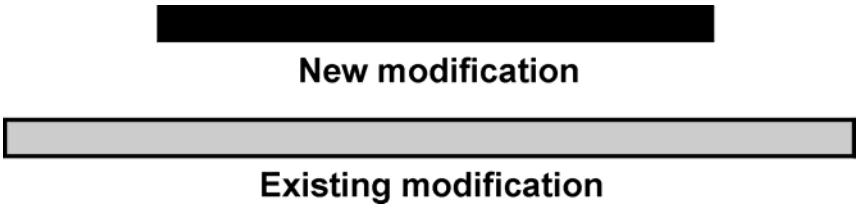


A **"case 2"** conflict occurs when the new modification **completely overlaps** another modification, forcing the deletion of the existing modification. The following illustrates a "case 2" conflict:

When the new modification **overlaps the end** of another modification, a **"case 3"** conflict is displayed. If you continue the creation of the new modification, the existing modification will be shortened to end at the regular date preceding the beginning of the new modification. The following represents a "case 3" conflict:




Finally, a **"case 4"** conflict occurs when the new modification is **in the interval** of an existing modification. If you continue the creation of the new modification, the existing modification will then be replaced by 2 modifications, one preceding the new modification and the other one following the new modification. The following illustrates a "case 4" conflict:




Note that when a new modification is introduced at an **irregular** date (a date being different from the normal date of payment according to the payment frequency) within the interval of another modification starting at a regular date, there is no conflict since no regular period is affected.

However, if the new modification starts at a **regular** date and overlaps a modification at an **irregular** date, there is indeed a “case 2” conflict. This means that the existing modification will be deleted. Notice that this situation happens only when the chronological order, based on the starting date of each modification, is not respected.

**For these reasons, if you want to make a modification at a regular date and a modification at an irregular date, in the same interval, you must always start with the regular date modification, otherwise the irregular date will be erased.**

Moreover, when proceeding with several modifications, it is always preferable to enter them chronologically since it is simpler and faster.

To illustrate different cases of conflicts, let us take the following example. An enterprise has contracted a loan of $60,000.00 repayable by 40 monthly payments of $1,500.00 plus interest (fixed principal payment loan) at 12% starting on May 1st, 2010.

As shown in figure 4.20, the lender has accepted to modify the $1,500.00 monthly principal remittance of the first 6 months as follows: For May 1st and June 1st, 2010, $500.00, for July 1st and August 1st, 2010, $1,000.00 and for September 1st and October 1st, 2010, $3,000.00.

Due to financial problems, the enterprise has been unable to make the payments for the months of June through September 2010. With ANNUI-T, to reflect this situation, you have to register a skipped payment modification for a duration of 4 periods beginning June 1st, 2010.

As soon as this modification is entered, the program displays the list of modifications in conflict. As illustrated in figure 4.21, there are 3 conflicts.

The new modification overlaps the end of the modification beginning May 1st, 2010 (“case 3” conflict), completely overlaps the one starting July 1st, 2010 (“case 2” conflict) and also overlaps the beginning of the modification starting September 1st, 2010 (“case 1” conflict).

If you confirm the new modification, you will end up with the following modifications:

1- May 1st, 2010, modification of the fixed principal remittance to $500.00;

2- From June 1st through September 1st, 2010, skipped payment with interest updated;

3- October 1st, 2010, modification of the fixed principal remittance to $3,000.00 .

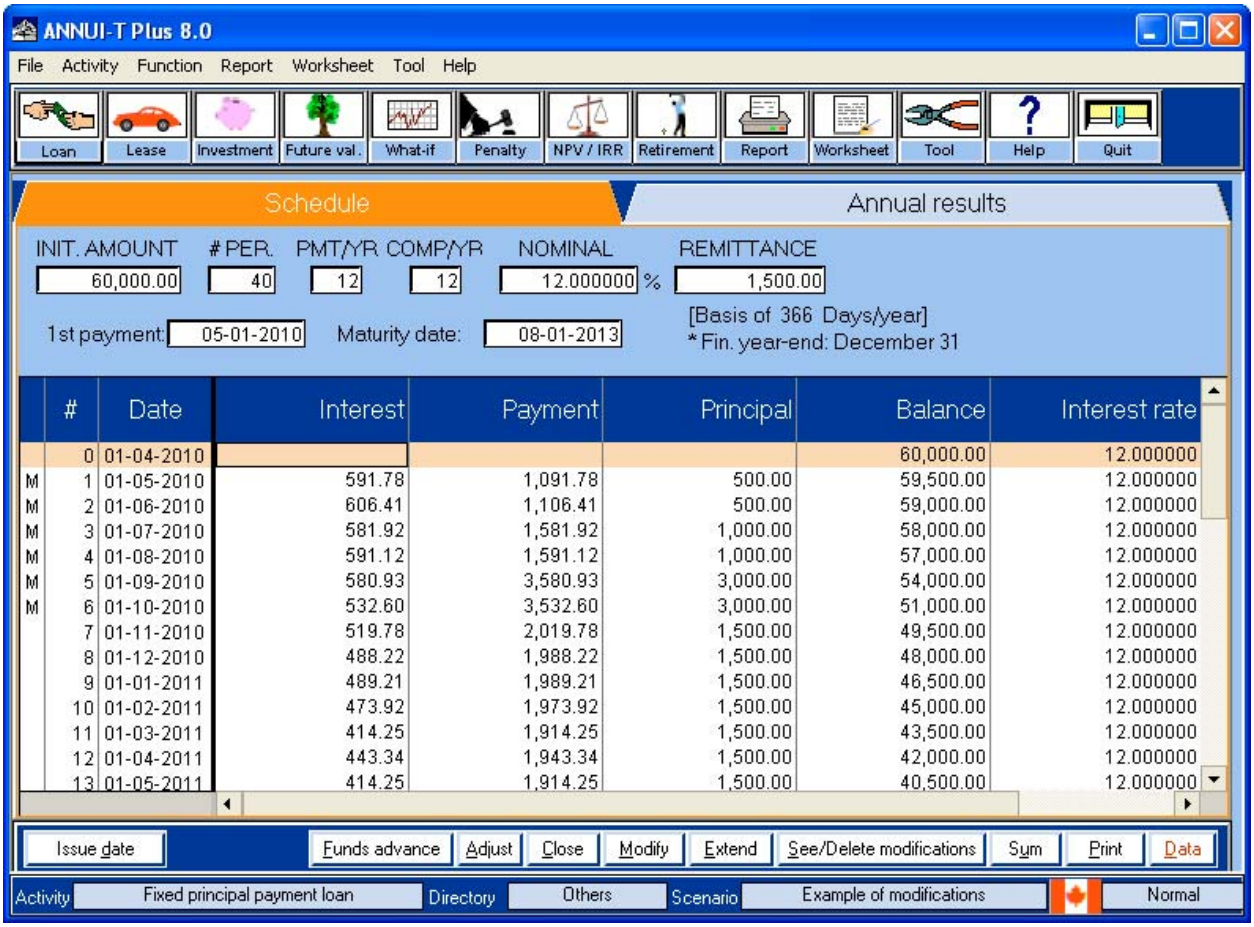



**Figure 4.20**
**Modifications before the conflicts**

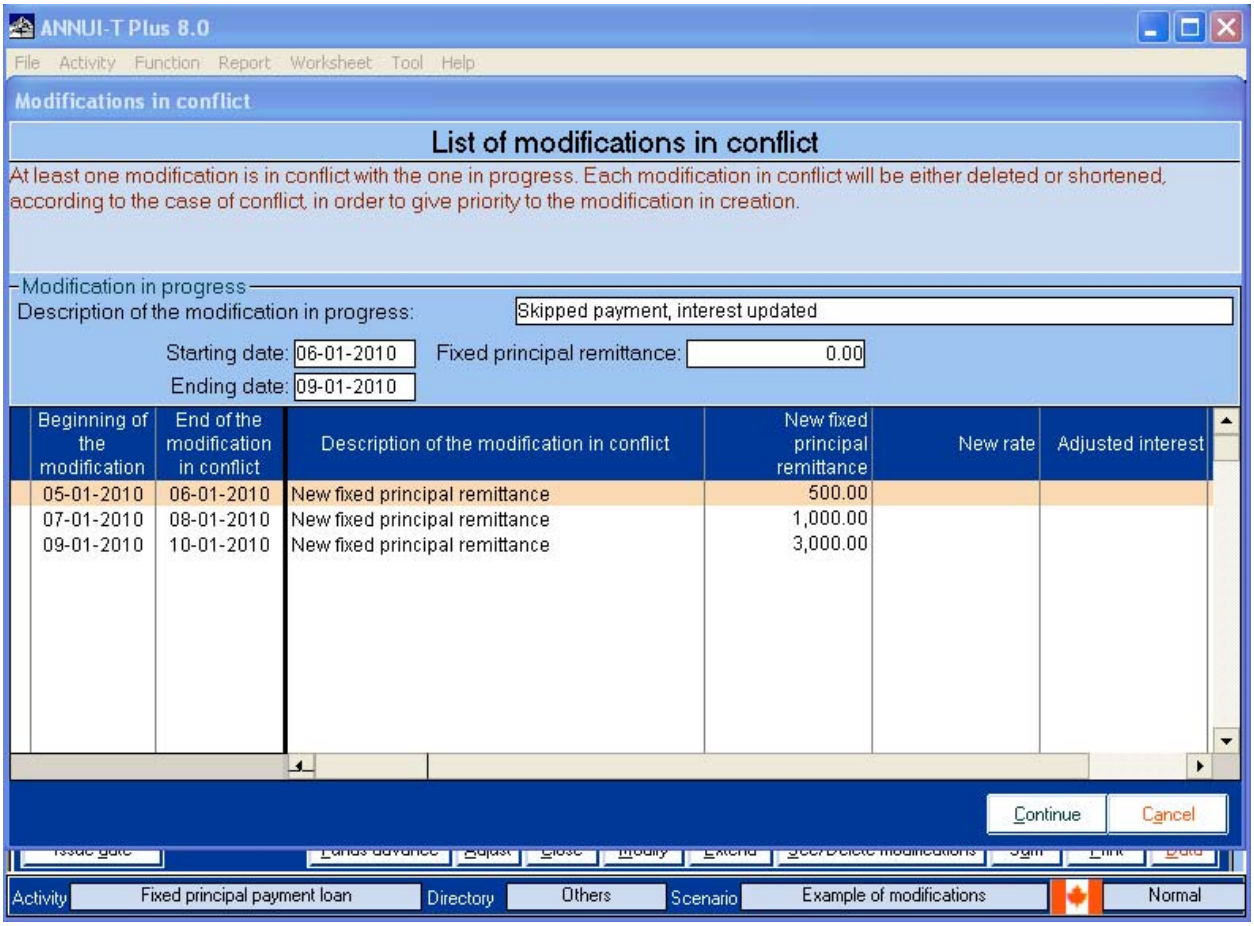

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Modifications in conflict
List of modifications in conflict
At least one modification is in conflict with the one in progress. Each modification in conflict will be either deleted or shortened, according to the case of conflict, in order to give priority to the modification in creation.
Modification in progress
Description of the modification in progress:
Skipped payment, interest updated
Starting date: 06-01-2010
Fixed principal remittance: 0.00
Ending date: 09-01-2010
Beginning of the modification
End of the modification in conflict
Description of the modification in conflict
New fixed principal remittance
New rate
Adjusted interest
05-01-2010 06-01-2010 New fixed principal remittance 500.00
07-01-2010 08-01-2010 New fixed principal remittance 1,000.00
09-01-2010 10-01-2010 New fixed principal remittance 3,000.00
Continue
Cancel
Activity
Fixed principal payment loan
Directory
Others
Scenario
Example of modifications
Normal

**Figure 4.21**
**List of conflicts (3 different cases)**

On next page, figure 4.22 shows the amortization schedule after the adjustments and/or the deletions of the modifications in conflict.

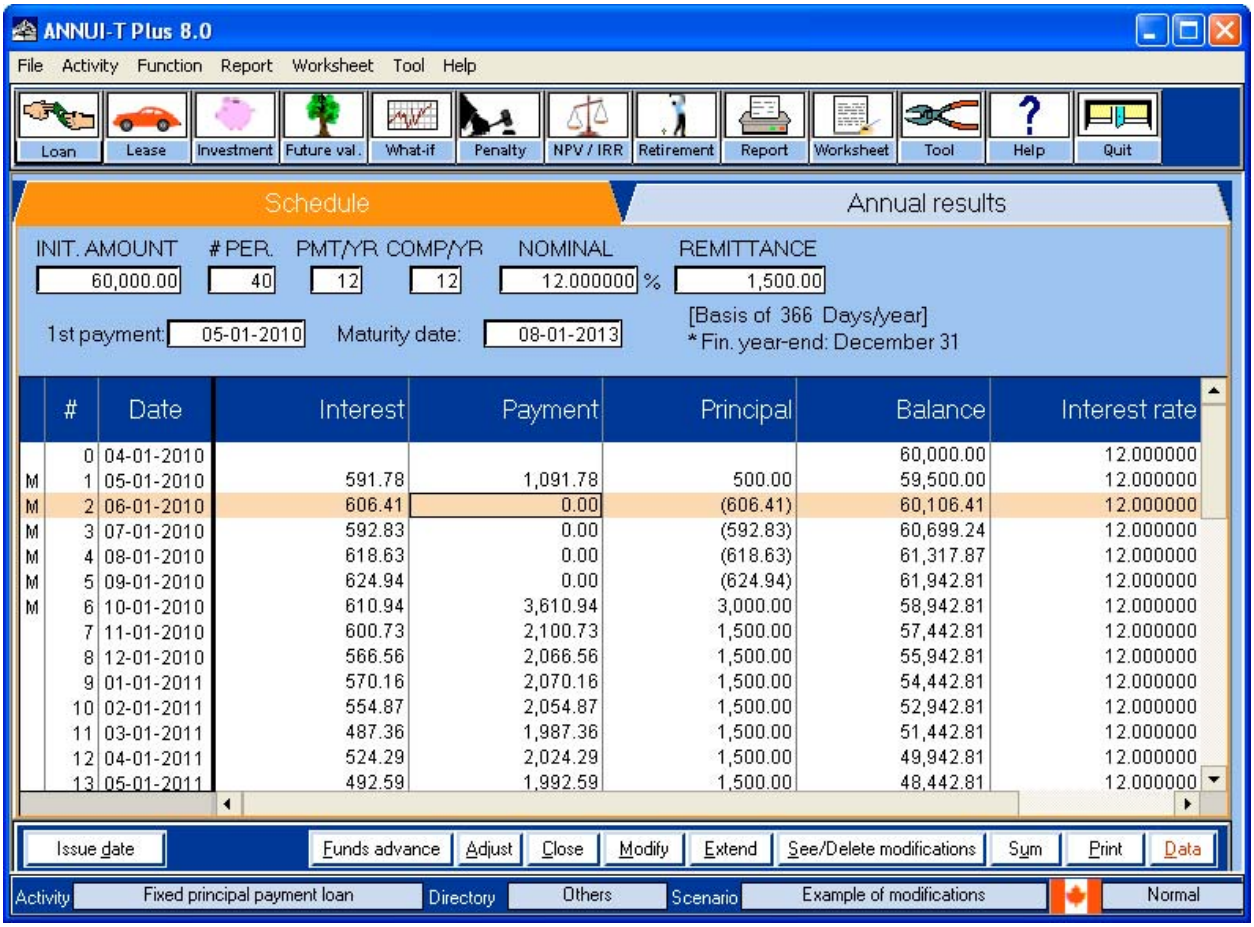



**Figure 4.22**
**Amortization schedule after registering the skipped payments**

In order to compensate, the parties have agreed to an increase of $500.00 on the monthly fixed principal remittance for 11 months. Then, from January 1st through November 1st, 2011, the amount was modified to $2,000.00 per month. Figure 4.23 represents the amortization schedule after entering this new modification.

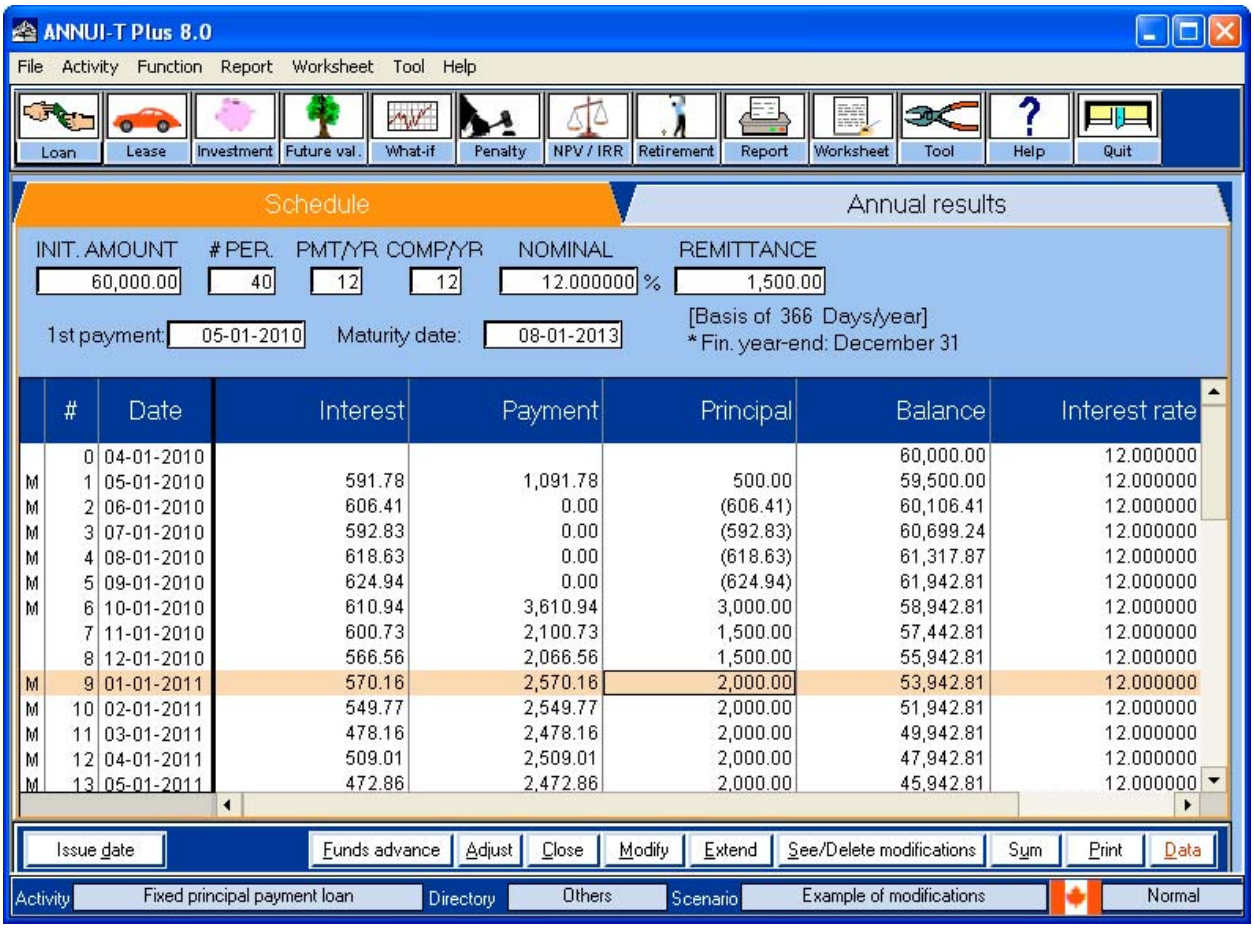



**Figure 4.23:**
**Modification of the fixed principal remittance for 11 months.**

Unfortunately, the enterprise has experienced other financial problems and was unable to make the payments of March and April 2011. With ANNUI-T, once you have entered this new modification, the program displays a “case 4” conflict.

Figure 4.24 illustrates the amortization schedule **after** the confirmation of the new modification. As we can see, the existing modification is now divided into 2 modifications: The first one from January 1st to February 1st, 2011 and the second one from May 1st to November 1st, 2011.

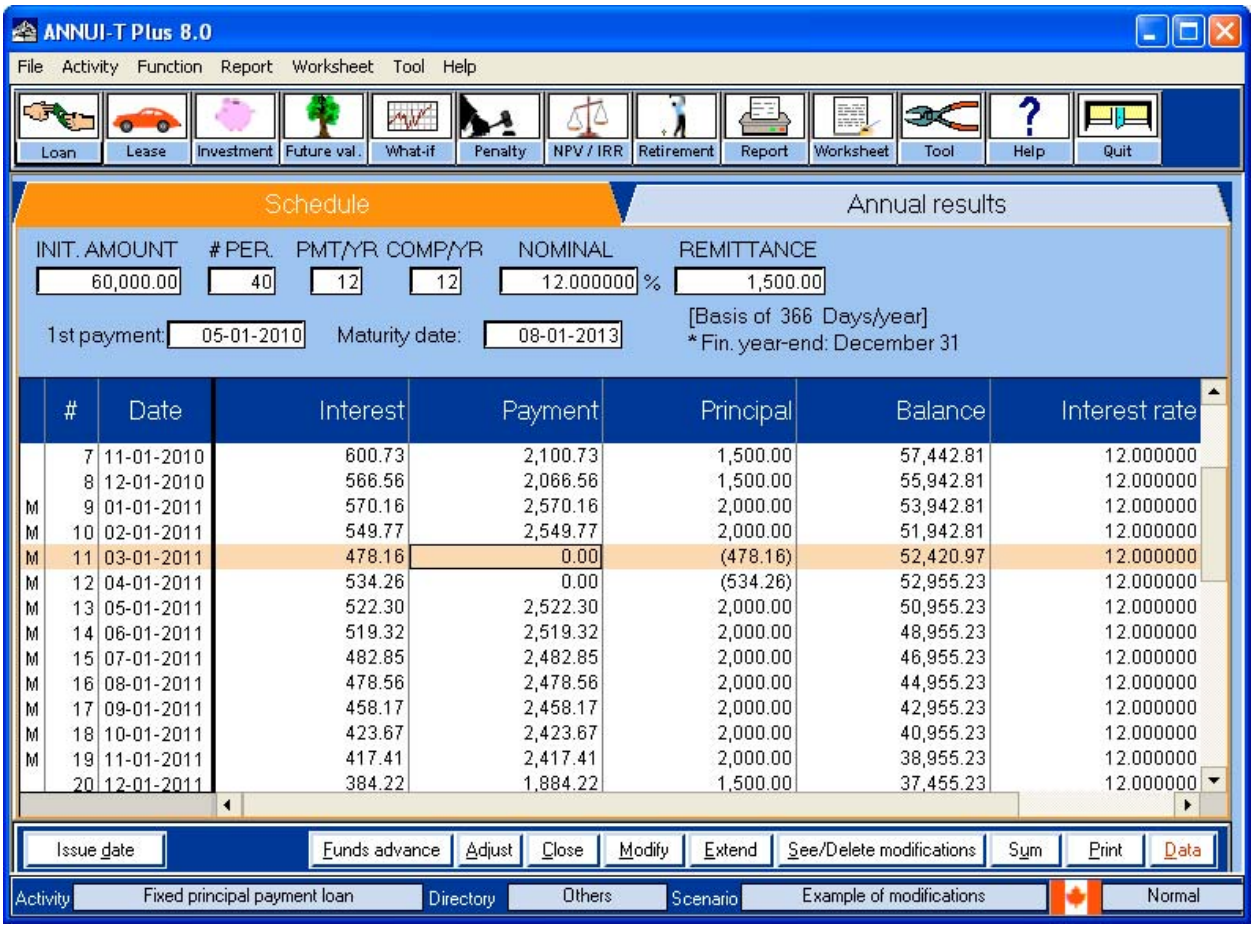



**Figure 4.24**
**Schedule after the "case 4" conflict**

Finally, in addition to the 4 conflict cases caused by overlapping modifications, there is one last case of conflict. This occurs when you create or delete a change in the schedule at a date preceding a closure of the scenario. A change here means a modification (skipped payment, etc.) as well as a supplementary funds advance (or a funds withdrawal in the case of an investment annuity).

In other words, if you want to make this kind of change in the schedule and there is a closure in effect, the program displays a **"case 5"** conflict. This means that if you continue, the closure will be deleted.

Consequently, if you want to enter several changes in the schedule with one being a closure of the scenario, **you must always proceed with the closure last**.

Since it is possible to combine a closure with an existing modification, when a "case 5" conflict occurs, only the closure will be deleted.

## COMBINATIONS OF MODIFICATIONS

As mentioned previously in the section “Modification conflicts”, when you introduce a modification that overlaps an existing modification of the same type, the program displays the list of conflicts. For example, if you want to register a skipped payment in the interval of a payment modification, ANNUI-T will warn you of a conflict.

The same thing happens when the new modification overlaps a modification of a different type (one affecting the **payment** and the other one affecting the **interest rate**).

In fact, every time you enter a modification affecting the payment, ANNUI-T verifies if this modification overlaps an interest rate modification. If it is the case, the program proposes to combine the 2 modifications for the overlapping period.

As well, if you want to change the interest rate in the interval of a modification affecting the payment, the program will ask you if the 2 modifications have to be combined or not.

Therefore, in the list of conflicts, there is an “X” at the beginning of the line identifying a modification that could be combined with the one in creation.

If you do not want to combine one of the modifications, you simply have to double-click on the line of this modification and the “X” will be deleted. This modification will then be treated like an ordinary conflict, which means that this modification will be shortened or deleted, depending on the kind of overlap, to give priority to the one in creation.

To illustrate the principles of modification combinations, let us take the following case. A fixed principal payment loan of $96,000.00 is repayable by 60 monthly payments starting January 10th, 2011. The interest rate is floating. Initially, this rate was 12.5%. According to the contract, for the first year (January 10th through December 10th, 2011), the borrower had to pay only the interest. For the remaining term, the monthly payment was $2,000.00 plus interest

To create this scenario with ANNUI-T, you have to register 2 modifications. The first one to enter the 12 interest only payments and the second one to modify the amount of the fixed principal remittance for the remaining term.

Now, let us suppose that since March 10th, 2011, the interest rate is 11%. You then have to register this interest rate modification. Note that it is better to choose “Modification to the end of the scenario” when you do not know how long this interest rate change will be effective. Anyhow, at the next interest rate modification, this modification will be shortened by the new one since 2 modifications of the same type can not overlap each other. In fact, there will be a "case 3" conflict.

Figure 4.25 represents the screen displayed when creating the interest rate modification. As you can see, the program offers to combine the 2 modifications since they are not of the same type (interest rate versus payment).

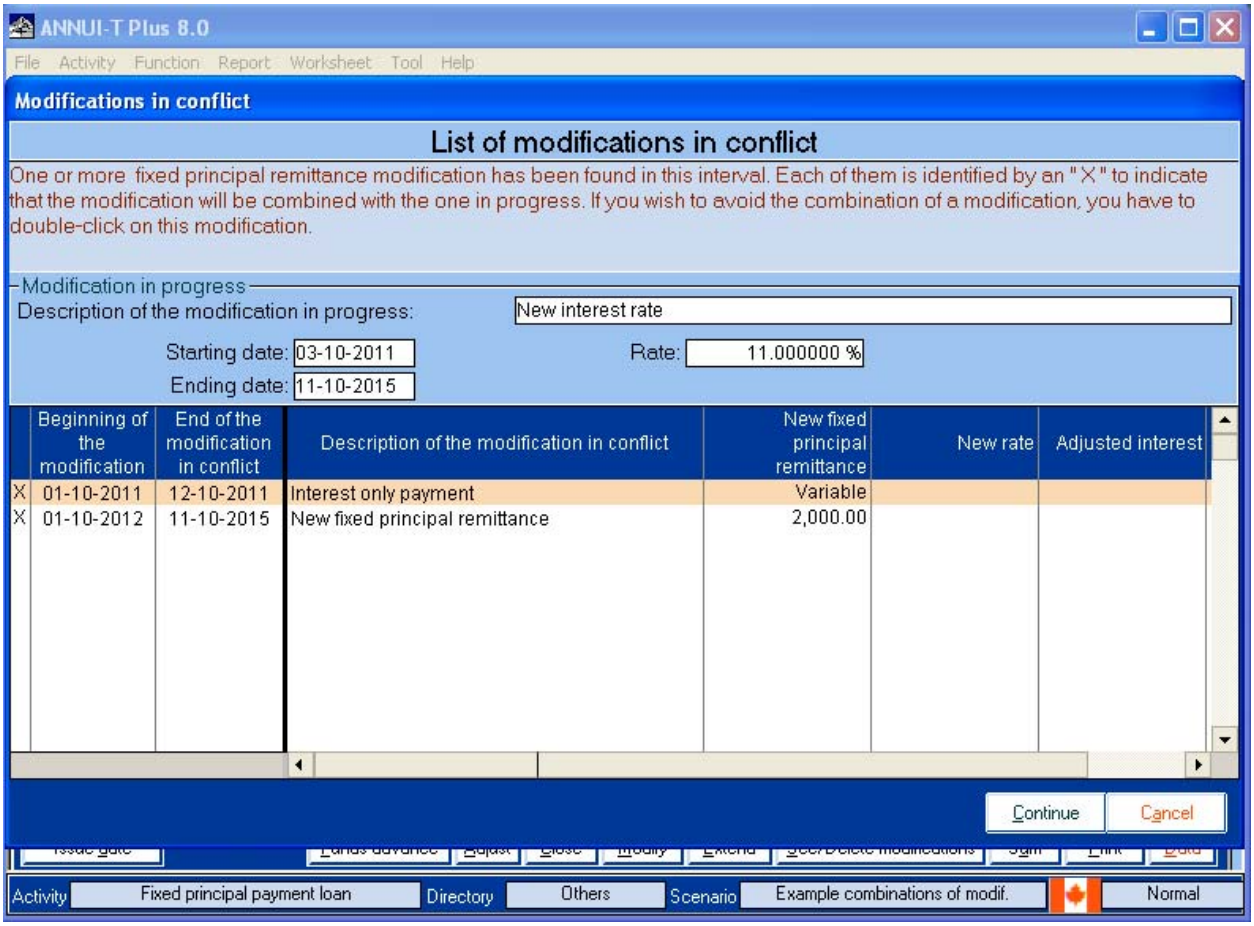

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Modifications in conflict
List of modifications in conflict
One or more fixed principal remittance modification has been found in this interval. Each of them is identified by an "X" to indicate that the modification will be combined with the one in progress. If you wish to avoid the combination of a modification, you have to double-click on this modification.
Modification in progress
Description of the modification in progress:
New interest rate
Starting date: 03-10-2011
Rate: 11.000000 %
Ending date: 11-10-2015
Beginning of the modification
End of the modification in conflict
Description of the modification in conflict
New fixed principal remittance
New rate
Adjusted interest
X 01-10-2011 12-10-2011 Interest only payment Variable
X 01-10-2012 11-10-2015 New fixed principal remittance 2,000.00
Continue
Cancel
Activity
Fixed principal payment loan
Directory
Others
Scenario
Example combinations of modif.
Normal

**Figure 4.25**
**Screen displayed for combinations of modifications**

If you continue, you will obtain the 3 following modifications:

1) From January 10th to February 10th, 2011, interest only payment;

2) From March 10th through December 10th, 2011, interest only payment **AND** interest rate change (11%);

3) From January 10th, 2012 until the end of the scenario, modification of the fixed principal remittance to $2,000.00 **AND** interest rate change (11%).

Of course, you could make these 3 modifications one by one but the automatic combination is still much faster and reduces the risk of errors. Note that the present example was rather simple but sometimes the new modification overlaps several other modifications.

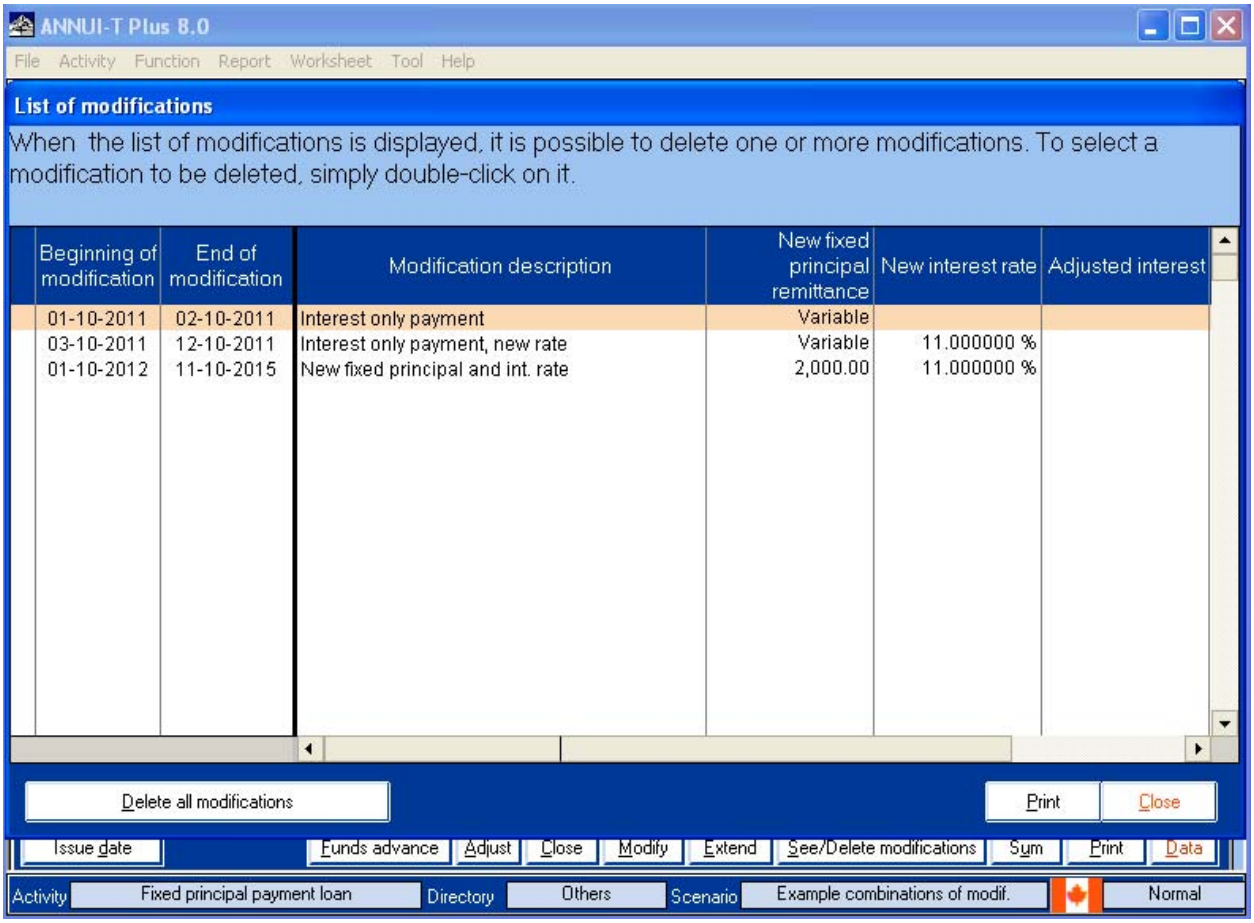



**Figure 4.26**
**List of modifications after the interest rate change**

## INTEREST RATE MODIFICATION AT AN IRREGULAR DATE

As we know, the interest rate can sometimes change at an **irregular** date (a date different from the normal payment date according to the chosen frequency). In these circumstances, with ANNUI-T, if the new interest rate is applicable for several periods, you need to enter **2** modifications since a modification at an irregular date is only valid for the specified date. The first interest rate modification has to be made on the irregular date. The second one must start at the next regular date and therefore, can have a duration of several periods.

For example, let us take the case of a fixed principal payment loan repayable on the 1st day of each month. If the interest rate changes on March 15th, 2012, you have to register, at this date, a first interest rate modification. Since this date is **irregular**, the duration is automatically set for one period only. Then, you must enter a second interest rate modification starting **at the next regular date**, April 1st, 2012. If the duration of the new rate is unknown, it is preferable to select “Modification to the end of the scenario”.

Note that even if you know the time during which the new interest rate applies, it is still better to select “Modification to the end of the scenario” instead of calculating the number of periods of the real duration. In fact, if you proceed this way, at the next interest rate modification, the program will display a "case 3" conflict, which means that the existing modification will be shortened in order to provide space for the new interest rate change.

## INTEREST RATE MODIFICATION FOR A FIXED PAYMENT SCENARIO

Generally, for a fixed payment scenario, the interest rate remains the same for the entire term of the contract.

For example, in the case of a closed mortgage, the borrower must choose a term during which the interest rate will be fixed. This rate depends on the chosen term. Usually, financial institutions offer terms that could vary between 6 months and 10 years.

Most of the time, the amortization period is longer than the duration of the term. Consequently, at maturity of the contract, the balance must be paid off or refinanced over a new period of time. Unless the interest rate stays exactly the same as in the previous contract, the lender must establish a new periodical payment.

However, sometimes, by paying a penalty, the borrower is permitted to refinance the loan at a lower interest rate before the end of the term. Remember that the *"Close"* function allows you to register a closure and to adjust the balance, if needed. Once the refinancing is entered, you simply have to create a new scenario based on the new loan contract. Of course, to generate reports such as the accrued interest, the 5 year principal repayments and the combined results, remember that you have to select each of the scenarios related to the loan (each of the terms).

In the past, for a fixed payment loan, a change of the interest rate only occurred in the case of a refinancing. Now, it happens more and more often that even for this type of loan, the interest rate is floating. This phenomenon is mainly due to the competition between financial institutions.

For example, some financial institutions now offer loans with a floating interest rate that varies without exceeding a guaranteed maximum interest rate ceiling.

Thus, in order to consider this new reality, ANNUI-T allows you to modify the interest rate of a fixed payment scenario.

In this kind of situation, an interest rate change normally implies that the payment has to be modified from the next regular date until the end of the scenario.

For example, when the interest rate of a fixed payment loan rises, the payment has to be increased for the rest of the amortization period in order to be able to reimburse the loan without having a balloon payment at the end.

For this reason, by default, ANNUI-T automatically sets the "Modification to the end of the scenario" option. Nevertheless, you can always cancel this selection and enter a shorter duration.

Therefore, when you change the interest rate of a fixed payment loan until the end of the scenario, the program **proposes** a new payment amount.

In the case of a loan or an investment annuity, the new payment proposed is established according to the initial future value, which is the one entered in the data entry window when you created the scenario.

Of course, for an ordinary loan, the future value is zero since the loan has to be completely paid off at the end of the amortization period.

However, in the case of a residual value loan, the new payment amount is calculated in order to insure that the final balance is equal to the residual value.

Moreover, for a lease contract, the new proposed payment is always determined to preserve the initial buy back option.

**Please note that if you accept the new proposed payment, this modification will be automatically combined with the interest rate modification. This combination will start at the next regular date and will be effective until the end of the scenario. In other words, the list of conflicts is never displayed in these circumstances.**

Nevertheless, if the first modification (change of the interest rate for only one period) overlaps another interest rate modification, the program warns you of the conflict. Moreover, if there is a payment modification at this date, it will be possible for you to combine the 2 modifications.

Most of the time, when there is a payment modification in effect at the starting date of the new interest rate change, the 2 modifications have to be combined since the payment at this date is still valid. **You have to understand that the new interest rate affects only the interest calculation of the following periods**.

Finally, let us recall that if you want to change the interest rate for several periods starting at an **irregular** date, you must enter **2** interest rate modifications since a modification at an irregular date can not have a duration of more than one period. For more details, refer to the section “Interest rate modification at an irregular date”.

## REPETITIVE MODIFICATION

This kind of modification is also called a “sequential modification”. Often, this occurs when the lender accepts to take into account the fluctuating seasonal activities of the borrowing enterprise, permitting the reduction of the payment amount during the off season.

Let us take the case of a fixed principal payment loan of $160,000.00 with an interest rate of 10%, amortized over 20 years, repayable by monthly payments starting on January 15th, 2012 and based on the following schedule:

- For each year, from January through April, interest only payment;

- For the other months, $1,000.00 plus interest.

To register this scenario with ANNUI-T, first you have to let the program calculate the theoretical fixed principal remittance based on a duration of 240 months ($666.67). Then, you must enter the real amount ($1,000.00) in the “F.P.R. adjusted” field. Next, you could enter the 20 modifications (interest only payment for 4 periods) but fortunately, ANNUI-T is able to execute this kind of task automatically.

To do so, you simply have to click on the “Repetitive modification” check box in the modification window. Next, you must enter the number of periods that the modification is effective, which means the duration of **one sequence** (4 periods, January through April).

You also have to indicate the number of periods that the modification will **not** be effective, which represents the number of periods preceding the next sequence of the modification (8 periods, May through December).

Finally, you must enter the number of repetitions (20 series of modifications).

If the repetition is effective until the end of the scenario, you can check the box “Modification to the end of the scenario” and ANNUI-T will calculate the number of repetitions.

**Note that a repetitive modification always has priority over any other modification. In other words, no conflict is listed. Moreover, if there is a possibility to combine this repetitive modification with another one (modification of the payment and the interest rate), the program will proceed automatically.**

Normally, this does not cause any problems since a repetitive modification is usually defined at the beginning of the contract.

**MAXIMAL NUMBER OF MODIFICATIONS**

ANNUI-T allows you to enter up to 200 modifications per scenario. Knowing that modifications are not so frequent, this maximum remains relatively high.

However, if this limit is reached, it is still possible to continue. To do so, you have to position the cursor on the line following the last modified line and select the *"Close"* function to register a **refinancing**.

Once you have entered the refinancing, be sure to save the scenario. Next, you have to create a new scenario that will be, in reality, the continuation of the one that has been closed.

In the new scenario, the initial amount to be entered is the balance of the previous scenario at closure. As for the duration, you must enter the remaining number of periods. As for the first payment date, you have to enter the date of the next regular payment, which is the one following the closure. All the other values stay the same.

Next, you have to select *"Calculate"*. The program will then establish the payment amount. Most of the time, due to all the modifications made earlier, you must enter the real amount of payment in the "Adjusted payment" field.

# MISCELLANEOUS

### CHANGE OF THE FINANCIAL YEAR-END DATE

When you fill in the data entry window, you have to enter the financial year-end date. **By default**, this date is used to establish the annual results.

Normally, to modify this date, you must select *"Modify data"* and enter the desired date.

However, as explained previously, once the schedule has been changed (skipped payment, interest rate modification, etc.), the *"Modify data"* function is no longer available.

Nevertheless, it is always possible to change this date in the data entry window by selecting *"Modify the financial year-end"* **in the menu**.

## CAISSES DESJARDINS LOANS

To calculate loan interest, the Caisses Desjardins actually use 2 different days in year basis.

**Generally, to calculate loan interest, the Caisses Desjardins use the 365.25 days in year basis for ALL their loans EXCEPT when the compounding frequency is semi-annual and when the payment frequency is on a monthly multiple basis (annual, semi-annual, every 4 months, quarterly, every 2 months and monthly).**

**In these circumstances, they apply the 360 days in year basis. Actually, the only loans of this kind, offered by the Caisses Desjardins, are mortgage loans repayable monthly. In other words, it is presently the only case where they use the 360 days in year basis.**

Thus, with the "Caisses Desjardins" option offered by ANNUI-T, for all the loans which the payment frequency is weekly or every 2 weeks, the days in year basis is always 365.25 and you are not allowed to change this value.

**For the other payment frequencies, which are on a multiple basis (annual, semi-annual, every 4 months, quarterly, every 2 months and monthly), if the compounding frequency is semi-annual, the default basis is 360 days per year but you can select another basis if you want.**

Finally, in all other cases, by default, the basis is 365.25 days per year but you can select a different basis.

As explained in the section “Days in year”, with a basis of 365.25 days per year, the interest calculation is based on the assumption that every day has the same importance.

In other words, the interest is calculated according to the real number of days elapsed since the last interest calculation. For example, when the payment frequency is monthly, the amount of interest for a month of 31 days is higher than for a month of 30 days in contrast with the 360 days in year basis, which assumes that every period has the same importance.

Note that, compared to the 365 days in year basis, the 365.25 days in year basis has the advantage to take into account the existence of the leap year that occurs, as we know, every 4 years. Besides, with this method, the interest amount is slightly lower since the denominator is higher (for example, 30 days / 365.25 < 30 days / 365). However, the difference is rather minimal.

**To calculate interest, the Caisses Desjardins use an annual interest rate that is called the "equivalent interest rate".** Their formula for interest calculation is the following:

| | | | | | | |
|---|---|---|---|---|---|---|
| Loan balance | x | Equivalent interest rate | x | Duration in fraction of year | = | Interest |

**It is not the purpose of the present manual to elaborate on the concepts of their method. Let us simply say that this method to calculate the interest gives the same results as the conventional method (balance multiplied by the periodic interest rate) since it is exactly the same formula but expressed differently.**

Indeed, by multiplying the equivalent interest rate by the duration in fraction of year, you obtain the periodic interest rate. In other words, **the equivalent interest rate represents, in some way, the periodic interest rate expressed on an annual basis.**

As explained previously, when the interest calculation is based on 365.25 days per year and the number of elapsed days vary from one period to another, the periodic interest rate and the equivalent interest rate have to be determined at every period.

Further precision should be made. **Due to the fact that in the interest calculation, these interest rates often change. You must understand that the periodic interest rate and the equivalent interest rate, displayed in the data entry window, are not necessarily the rates used in the interest calculation for the amortization schedule.**

**In reality, it is rather the periodic interest rate used to calculate the payment and the equivalent interest rate established with this periodic interest rate.**

For this reason, in the data entry window, the equivalent interest rate is often equal to the nominal interest rate. For example, this equality occurs when the compounding frequency is identical to the payment frequency, which happens for the majority of personal loans.

Note that in contrast with the other financial institutions, the Caisses Desjardins do not always write down the nominal interest rate on their loan contracts.

**The Caisses Desjardins often have the equivalent interest rate on their loan contracts instead of the nominal interest rate.**

In reality, except when they are obliged by the law to display the nominal interest rate on their loan contracts, the Caisses Desjardins usually prefer to disclose the equivalent interest rate because they consider this rate more representative.

**Thus, on their mortgage contracts, they always put the nominal interest rate since the law obliges them to do so. For other loan contracts, most of the time, they write down the equivalent interest rate.**

In the data entry window, it is important to enter the interest rate written on the contract in the right field. You must be careful not to enter the equivalent interest rate in the nominal interest rate field.

Once the interest rate is entered, ANNUI-T automatically calculates the other interest rates of the data entry window.

Of course, it is not always easy to determine if the interest rate written on the contract is the nominal interest rate or the equivalent interest rate. In addition, with the Caisses Desjardins, the insurance premiums are included in the interest rate written on the contract. In some cases, this calculation is rather complicated.

Note that the interest rate written on their loan contracts never has more than 3 decimals, which is insufficient to establish an accurate amortization schedule.

**Consequently, for a better degree of accuracy in the interest calculation, it is recommended to ask the Caisse Desjardins, the one that issued the loan, the following information:**

- **"TAU"** (nominal interest rate excluding the insurance premiums)

- **"PVS"** (Life insurance premiums factor)

- **"PIS"** (Disability insurance premiums factor)

Once you have this information, you must enter these values in the data entry window and ANNUI-T will calculate, with accuracy, the nominal interest rate including insurance premiums. **Normally, this will allow you to establish an amortization schedule, which will correspond exactly to the Caisse Desjardins statement.**

In the case where you do not need a high degree of accuracy in the amortization schedule, ANNUI-T can estimate the nominal interest rate including the insurance premiums.

To do so, you must enter all the data, except the interest rate. Next, you simply have to select *"Calculate"*. Of course, the degree of accuracy is not the same especially since they often round up the payment amount.

Finally, even if the Caisses Desjardins interest calculation method is fundamentally similar to those of the other financial institutions, as we can see, there are some differences in the way they proceed to calculate interest.

Indeed, not only do they use a 365.25 days in year basis and an equivalent interest rate for most of their loans, they also have other differences from the other financial institutions.

**Nevertheless, as mentioned before, the purpose of this manual is not to elaborate on the concepts of their method. Just remember that the "Caisses Desjardins" option of the ANNUI-T program allows you to calculate interest according to their policies, even when an irregularity occurs (skipped payment, interest rate change, etc.).**

# 5. FUTURE VALUE

This function is used to process term deposits, trust funds, loans repayable by a single payment, etc. It allows you to establish the balance, the accumulated interest and the accrued interest at any given date.

When you select this function, a screen is displayed to let you choose the type of interest calculation because the program offers 4 different options to calculate the future value:

**(1) Simple interest on a "periodical" basis**

With this option, the interest is updated at every period but never capitalized since it is simple interest. This calculation method assumes that **every period has the same importance** even if, in reality, the number of days could vary from one period to another. For this reason, theoretically, the amount of periodical interest always remains the same.

For example, if an amount of $10,000.00 bears interest at 12% per year, calculated monthly, regardless of the real elapsed number of days since the last interest calculation, the amount of interest per month will always be $100.00 established as follows:

$10,000.00 x (12% / 12)

Interest on term deposits is often calculated this way.

**(2) Compounded interest on a "periodical" basis**

With this option, the interest is **capitalized at every period** and calculated on the preceding balance, which includes the accumulated interest. As opposed to simple interest, the amount of periodical interest increases from one period to another. The formula for calculating the accumulated interest is as follows:

$$[ a \times ((1 + nr / c) ^ p) ] - a$$

where

a = Initial amount
nr = Nominal interest rate
c = Compounding frequency
p = Number of periods elapsed since the beginning

**(3) Simple interest on a "daily" basis**

In this case, the simple interest is **calculated according to the real number of days elapsed, since the beginning, in proportion to a 365 days per year**. Thus, the formula is expressed as follows:

$$\text{Initial amount} \times \text{Interest rate} \times \frac{\text{Number of elapsed days}}{365}$$

This interest calculation method is commonly used for trust funds and for some loans negotiated between individuals.

**(4) Compounded interest on a "daily" basis**

With this option, the interest is also **calculated according to the real number of days elapsed but capitalized at every period.** In other words, interest is calculated on the preceding balance, which includes the accumulated interest. The formula used to calculate the interest at a given date is expressed as follows:

$$\text{Preceding balance} \times \text{Interest rate} \times \frac{\text{Number of elapsed days}}{365}$$

This interest calculation method is sometimes used for loans negotiated between individuals.

## PROCEDURE TO CALCULATE A FUTURE VALUE

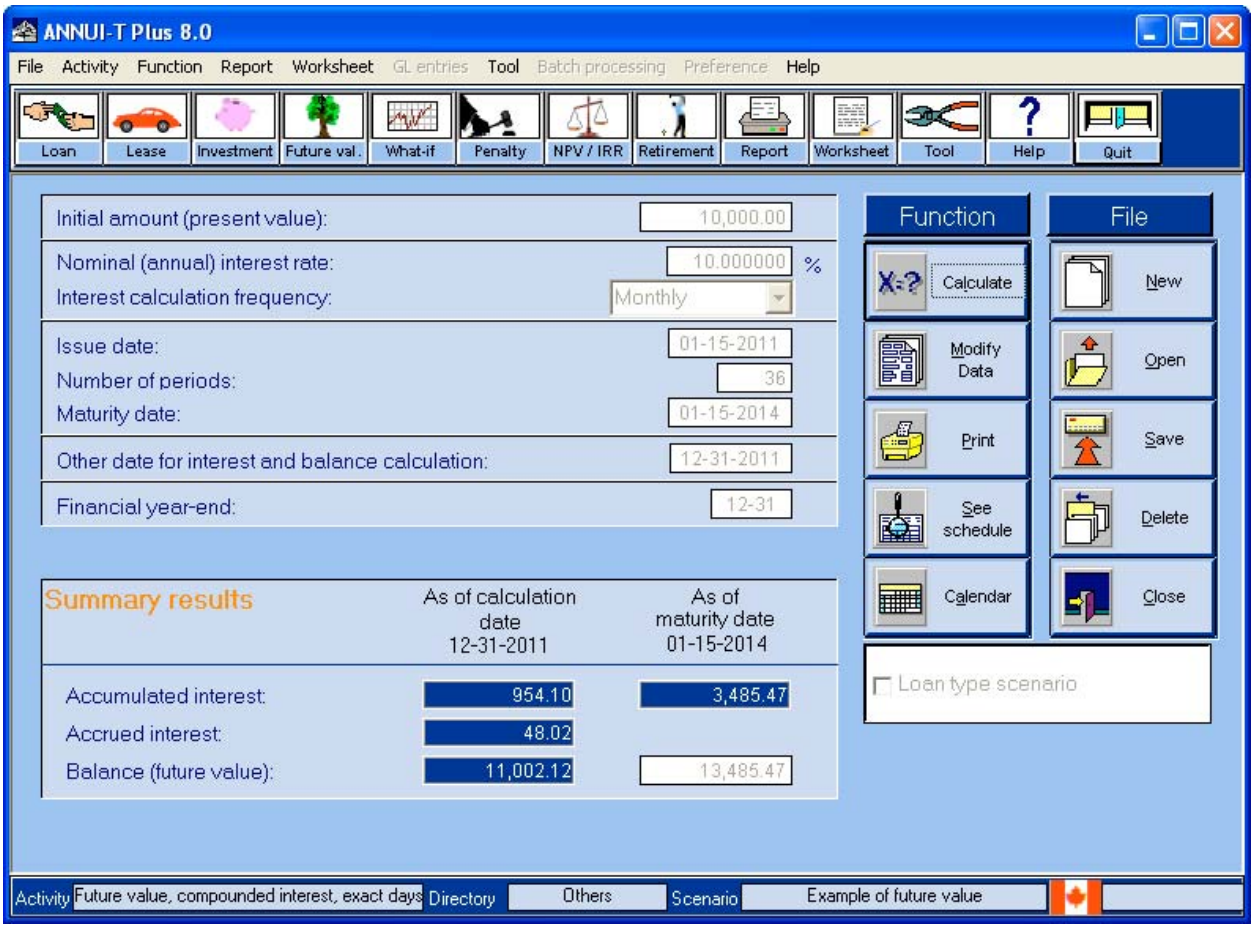



**Figure 5.01**
**Example of a data entry window for a future value with compounded interest on daily basis**

As for annuities, in the future value data entry window, the program allowed you to calculate an unknown value (initial amount, interest rate, number of periods or future value). There has to be no more than 1 unknown value. If all values are entered, ANNUI-T then checks the future value to be sure that the scenario makes sense.

You can also select “Loan type scenario”. This option has no impact on calculation. It only changes the terminology (Advances / Reimbursement instead of Deposit / Withdrawal).

Note that for the duration, you can enter the number of periods in order to let the program establish the maturity date **or** you can enter the maturity date to let the program calculate the duration.

The duration displayed in the data entry window represents the number of **"completed"** periods. To clarify, let us take the following case:

| | |
|---|---|
| Issue date: | January 1st, 2011 |
| Interest calculation frequency: | Monthly |
| Maturity date: | December 15th, 2011 |

Notice that this maturity date is an **"irregular" date, which means that it is not a regular date of interest calculation according to the chosen frequency**.

In this example, the duration **displayed** in the data entry window would be 11 periods. Nevertheless, the program would calculate the interest up to December 15th, 2011. Therefore, in the schedule, you would have 12 periods, the last one being a **fraction** of a period.

Finally, ANNUI-T also allows you to enter a supplementary calculation date. This option is useful when you want to know the accumulated interest, the accrued interest and the balance at a given date (for example, at the year-end date).

Since you can save a future value scenario, it is then possible to obtain the updated results at any time. To do so, you simply have to open the scenario, select *"Modify data",* enter the desired date in the *"Other date for interest and balance calculation"* field and select *"Calculate".*

When this date is **irregular**, ANNUI-T also calculates an amount of **accrued** interest, which is the **estimated** interest since the last regular date of interest calculation, according to the chosen frequency.

The accrued interest is calculated with a pro rata, which is the number of days elapsed since the last interest calculation date in proportion to the number of days between this date and the next interest calculation date.

Note that when the maturity date is irregular, the program executes the same type of calculation except that there is no interest considered as accrued interest since the maturity date remains a real interest calculation date.

No matter what kind of interest calculation for the future value, ANNUI-T always provides a schedule. To access the schedule, you simply have to select *"See schedule".* This window displays the detailed results and gives access to many functions. Since these functions are similar to the ones described in the Annuity section, for more information, please refer to this section.

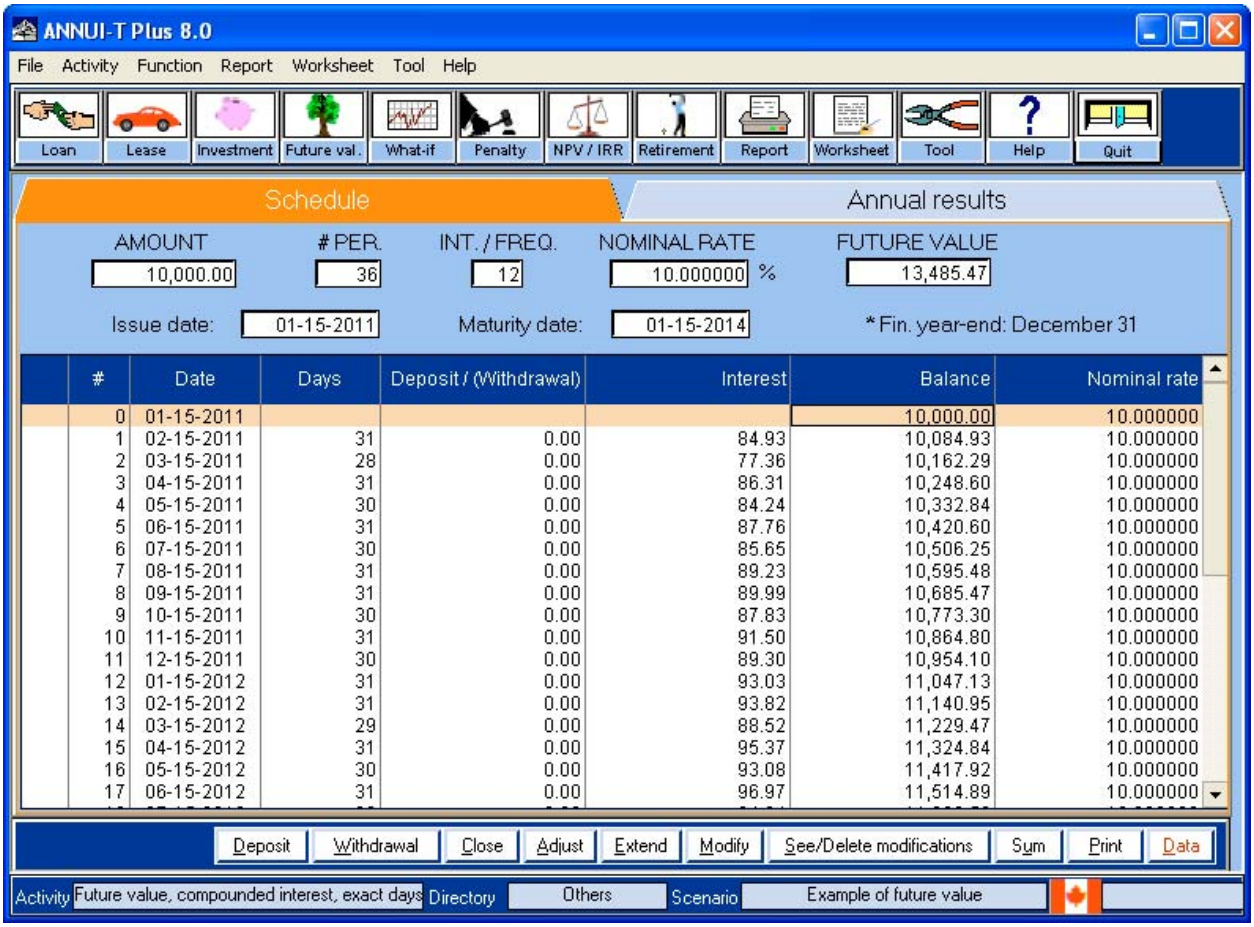



**Figure 5.02**
**Example of a schedule for a future value scenario**

As you can see, in the schedule, you can register additional deposits (advances for loans) and withdrawals (reimbursements for loans).

You can also select *''Close''* if the scenario ends before the maturity date. As usual, in these circumstances, you are allowed to adjust the final balance.

Moreover, the *''Adjust''* function enables you to adjust the interest or the balance at any give date.

If the maturity date is postponed, you must select *''Extend''* and enter the number of additional periods.

The *''Modify''* function allowed you to change the interest rate for one or more periods.

When a schedule is displayed, it is also possible to obtain the sum of the interest for any given interval.

To see the annual results, just click on the *"Annual results"* tab. By default, the annual results are calculated and presented on the basis of the financial year-end but you can enter any other desired date by clicking on *"Change date"*.

Notice that the annual results do not take the accrued interest into account. However, as explained previously, it is always possible to calculate this amount by entering the calculation date for the accrued interest in the field *"Other date for interest and balance calculation ".*

Finally, remember that you can select reports such as “Combine / summary”, “Combine / detailed” and “Accrued interest” for future value scenarios.

## 6. PENALTY CALCULATION BASED ON THE INTEREST RATE DIFFERENTIAL

This function allows you to calculate the net present value of the interest rate differential, commonly called the “I.R.D.” .

Most of the time, this procedure is used to establish the amount of penalty to be paid when a borrower refinances or prepays the balance of his mortgage before the end of the contract. This happens when the current interest rate is lower than the interest rate of the contract.

For illustration purposes, let us take the case of John who signed, 2 years ago, a mortgage contract of $120,000.00 bearing interest at 13.5%, amortized over 20 years and repayable by monthly payments of $1,417.47. Initially, for peace of mind in a fluctuating financial market, he chose a 5 year term because shorter term interest rates were rising constantly.

Today, at the bank, after having made his 24$^{th}$ payment, John realizes that the interest rate for a one year term mortgage is now 8% and for a 3 to 5 year term, 9.5%.

Knowing that his balance is now $117,164.62, he wonders what would be the impact of refinancing his mortgage loan at 9.5% for a 3 year term and amortizing this amount on the remaining duration, which is 216 months (240 - 24).

With his financial calculator, John finds out that based on these new conditions, his monthly payment would be $1,120.51, which represents a monthly savings of $296.96 or $10,690.56 over the remaining duration of the present term (36 months) !

In addition, the balance at maturity would be less by an amount of $2,800.04. Consequently, over 3 years, the total savings would be $13,490.60 !

Of course, John is aware that to refinance his mortgage, he will have to pay a penalty. He believes that this amount will probably be the equivalent of 3 payments, which is $4,252.41 (3 x $1,417.47). Under these conditions, without a doubt, this will be advantageous. He then returns to the bank.

After examining the contracts, the loan officer confirms that the contract can be breached with the payment of a penalty.

This penalty would be the highest amount between the equivalent of 3 payments and the net present value of the interest rate differential. As explained by the agent, the last amount is in fact, the net present value of the difference between the interest calculated with the interest rate of the contract and the interest calculated with the current rate for a 3 year term, which represents the remaining duration of the contract.

After many questions, John still does not understand this last method. Nevertheless, he lets the loan officer calculate the amount of penalty.

The result simply stuns John. The penalty to breach the present contract would be $11,414.70 !

Figure 6.01 illustrates the present example. With ANNUI-T, the penalty calculation is very easy to do.

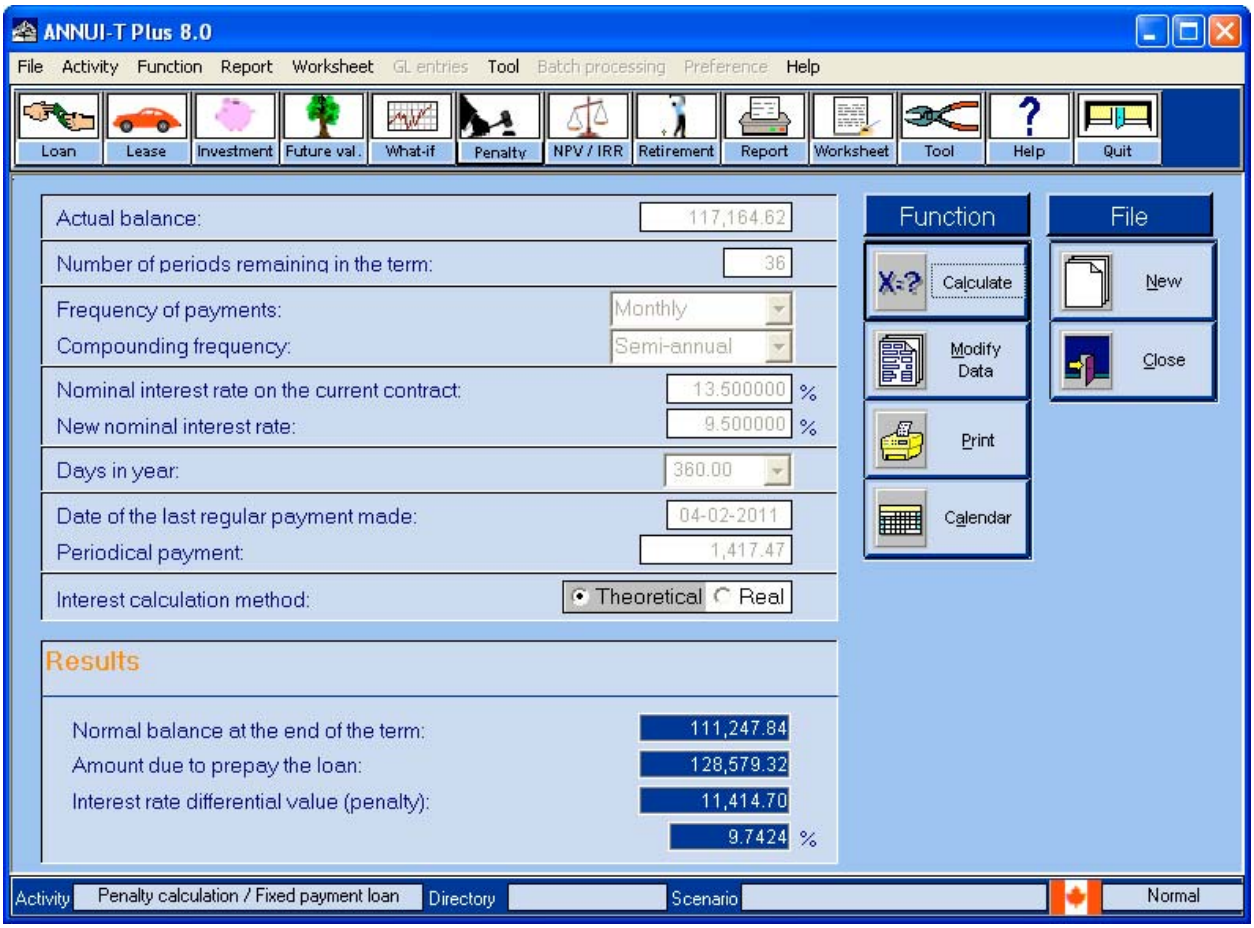

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Actual balance: 117,164.62
Number of periods remaining in the term: 36
Frequency of payments: Monthly
Compounding frequency: Semi-annual
Nominal interest rate on the current contract: 13.500000 %
New nominal interest rate: 9.500000 %
Days in year: 360.00
Date of the last regular payment made: 04-02-2011
Periodical payment: 1,417.47
Interest calculation method: Theoretical Real
Results
Normal balance at the end of the term: 111,247.84
Amount due to prepay the loan: 128,579.32
Interest rate differential value (penalty): 11,414.70
9.7424 %
Function
Calculate
Modify Data
Print
Calendar
File
New
Close
Activity Penalty calculation / Fixed payment loan Directory Scenario Normal

**Figure 6.01**
**Example of a penalty calculation**

To do so, you simply have to fill in the data entry window.

Note that the “Number of periods remaining in the term” is the number of periods remaining in the current contract (not the number of periods remaining for amortization).

As for the “Date of the last regular payment made”, it is the date of the actual balance of the loan.

In the field "New nominal interest rate", you must enter the current rate for a term equivalent to the remaining duration of the contract. In the example, the initial term was 5 years but the remaining duration is now 3 years. Consequently, you must enter the interest rate for a term of 3 years, which is 9.5%. Of course, it has to be the rate applicable to the same type of loan (mortgage, personal, commercial, etc).

Finally, for interest calculation, ANNUI-T offers 2 methods: “Theoretical” and “Real”.

With the “Theoretical” option, the interest and the balance are simply estimated by formulas. With the “Real” option, the interest and the balance are established by generating a real schedule.

**Nevertheless, most of the financial institutions use the theoretical interest calculation method to establish the amount of the penalty.**

Once the data is entered and you have selected *“Calculate”*, the results are displayed.

Concerning the “Normal balance at the end of the term,” it is the balance that would exist at the end of the current contract based on the actual conditions of this contract.

The "Amount due to prepay the loan" is simply the addition of the actual balance and the penalty.

Finally, the "Interest rate differential value" represents the penalty to be paid to breach the contract. In the following field, this penalty is also expressed in a percentage, which is the penalty divided by the actual balance of the loan.

Let us return to our example. After discovering the amount of penalty that he would have to pay, John is disappointed but also confused.

Conscious of the fact that money looses its value with time, he does not know what to do. The question is: Is it advantageous to pay $11,414.70 penalty to save $13,490.60 over 3 years ?

The answer is not immediately evident. In fact, John would have to be able to calculate, with the periodic interest rate, the net present value of the difference of the balances at the end of the term ($2,800.04) and the monthly savings.

John would realize that there is no gain to make since the penalty completely negates the savings.

In fact, when a financial institution calculates a penalty based on the interest rate differential, the return on investment is the same because the amount of penalty is equivalent to the net present value of the interest that the institution will not receive. If the lender’s return on investment remains the same, the borrower simply has nothing to gain.

For the purpose of analysis, let us assume that John accepts to pay the penalty of $11,414.70 and refinances the actual balance at 9.5% for a 3 year term. To facilitate the comparison, let us suppose that John decides to continue to pay the same amount of payment ($1,417.47) in order to reimburse the principal more quickly.

After 36 payments, the new mortgage balance would be $96,168.25, which is $15,079.64 less, compared to the balance that he would have if he kept the actual conditions of the previous contract instead of paying the $11,414.70 penalty.

In reality, the amount of penalty that the bank receives today has a future value of $15,079.56 in 36 months, if the interest rate used is the periodic interest rate, which is the one established with the nominal interest rate of 9.5%.

In other words, if the bank invests $11,414.70 for 36 months at an interest rate of 9.5% compounded twice a year, the financial institution will end up receiving $15,079.56.

Consequently, whether John breaches his contract or not, the return on investment for the bank remains the same. This future value is calculated as follows:

Penalty x (1+ Periodic interest rate) ^ 36 = Future value

Or $11,414.70 x 1.0077643832 ^ 36 = $15,079.56

As you can see, the method used to calculate the penalty based on the interest rate differential is still logical and fair since the lender does not make any supplementary gain unless he could lend this amount of money at a higher interest rate. However, the opposite is also possible because the interest rate can also decrease suddenly.

For the borrower, the only advantage of breaching the contract is to be able to benefit from the future interest rate fluctuations. For example, if he foresees another decrease of the interest rates in the short term, he could sign for a term of 6 months hoping to renegotiate the next term at an even lower interest rate. Nevertheless, all this is simply speculative.

In conclusion, the payment of a penalty based on the interest rate differential is rarely profitable. To reduce the interest, the borrower should try to reimburse the principal as fast as possible. Most of the financial institutions allow their customers to prepay, at each anniversary date of the loan, up to 20% of the initial amount.

# 7. NET PRESENT VALUE (N.P.V.) AND INTERNAL RATE OF RETURN (I.R.R.)

As we know, due to the inflation phenomenon, money usually loses value with time. For example, you can buy much less with $100.00 today compared to 20 years ago.

Moreover, you can bet that the same $100.00 in 20 years from now will buy even less than today. For example, if we suppose that the future inflation rate will be 3% annually, receiving $100.00 in 20 years is equivalent to having $55.37 of today's dollar value, which can be calculated as follows:

$$\$100.00 \times (1.03 \text{ ^ } -20)$$

This kind of calculation is called actualization and means that the present value of a future amount is determined. Even if this method is based on the assumption that the inflation rate never varies from one period to another, it gives a better comparison basis of values. For this reason, the actualization method remains a useful tool in investment project analysis.

In fact, one of the most popular methods to evaluate and select investment projects is the net present value, generally known as the "N.P.V." in financial circles.

In the N.P.V. calculation, the present value of each cash inflow is added up and the present value of each cash outflow is subtracted. **According to the N.P.V. criterion, if the result is positive, the project should be retained but if the result is negative, it should be rejected.**

Note that the N.P.V. is based on the hypothesis that each cash flow is reinvested at the same interest rate as the one used to actualize the cash flow, also known as the discount rate.

The discount rate utilized in the N.P.V. calculation depends on the investor's policies and can vary upon many factors and probabilities. In general, this rate is established according to the risk related to the project.

For example, many enterprises use their average rate of return when the risk of the project is similar to the risk of their normal activities. However, if the risk of the project is considered higher, they will normally demand a higher rate of return on their investment, which means that the discount rate will be increased. **Note that the higher the discount rate is, the lower the N.P.V. result becomes.**

Therefore, the N.P.V. provides a tool for project comparison taking into account the risk related to each of the projects.

However, if the amount of investment differs considerably from one project to another, the best project is not necessarily the one with the highest net present value. Thus, the rate of the return on investment should also be considered.

**For this reason, analysts usually calculate not only the N.P.V. but also the rate of return that makes the N.P.V. equal to zero (0). This rate is called the internal rate of return, commonly known as the "I.R.R.".**

**To be acceptable, the I.R.R. of the project has to be equal or higher than the investor's expected rate of return with an equivalent degree of risk. The higher the I.R.R. is, the more attractive the project becomes.**

The N.P.V. and the I.R.R. help to make better decisions but, of course, many other factors have to be considered when it comes to project analysis. There are also other evaluation methods but the N.P.V. and the I.R.R. remain 2 of the most useful methods.

However, even with a financial calculator, the N.P.V. and I.R.R. calculation is sometimes an arduous task. Fortunately, with ANNUI-T, this kind of analysis is very easy to do. The program also offers many options to facilitate the task.

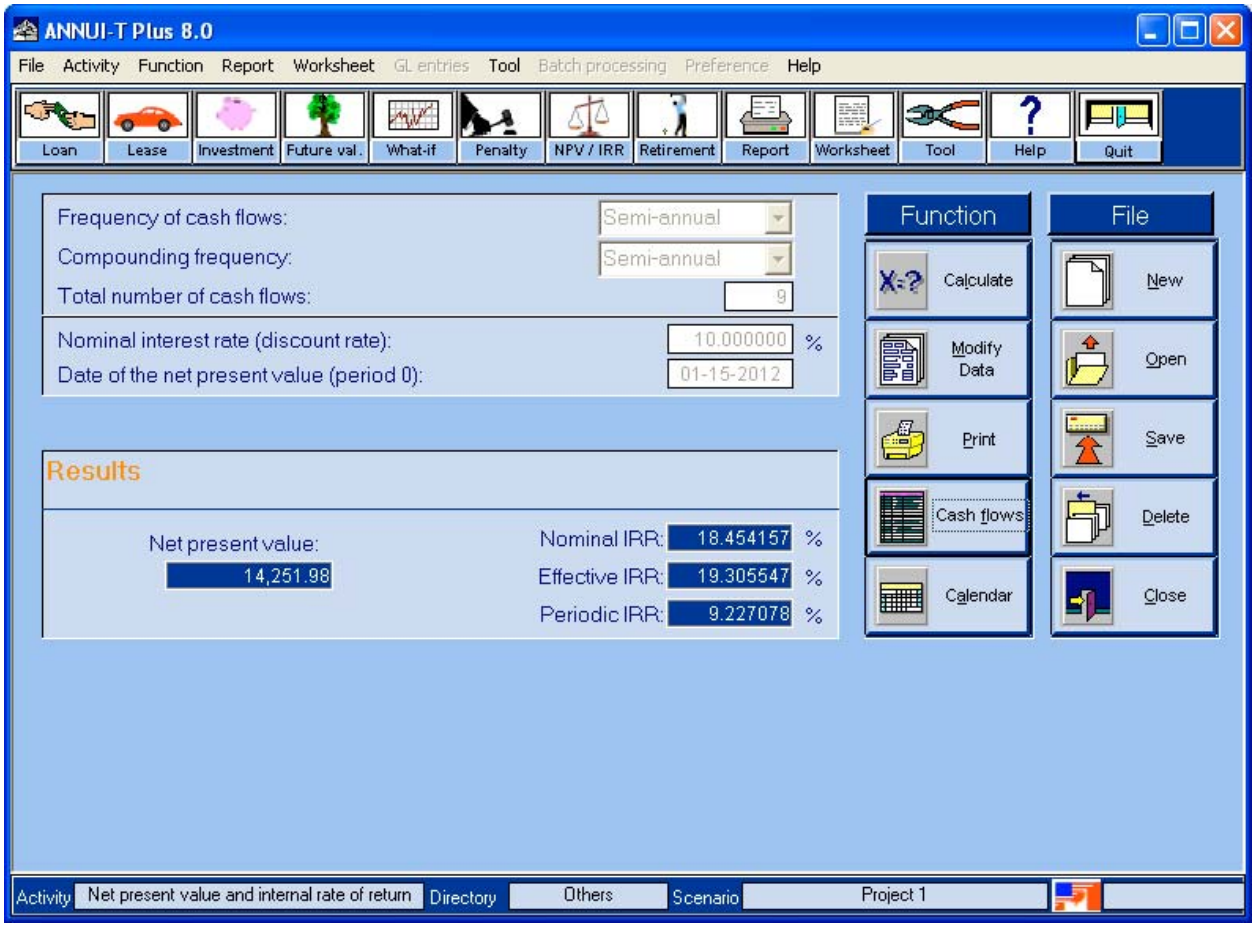

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Frequency of cash flows: Semi-annual
Compounding frequency: Semi-annual
Total number of cash flows: 9
Nominal interest rate (discount rate): 10.000000 %
Date of the net present value (period 0): 01-15-2012
Results
Net present value: 14,251.98
Nominal IRR: 18.454157 %
Effective IRR: 19.305547 %
Periodic IRR: 9.227078 %
Function
Calculate
Modify Data
Print
Cash flows
Calendar
File
New
Open
Save
Delete
Close
Activity Net present value and internal rate of return Directory Others Scenario Project 1

**Figure 7.01**
**Example of the data entry window to calculate the N.P.V. and the I.R.R.**

In the data entry window, you have to indicate the cash flow frequency, the compounding frequency and the total number of cash flows (maximum 1,305).

Next, you have to enter the nominal interest rate for discounting and the date to calculate the net present value, which is often the date of the first investment disbursement.

Once you have filled in the data, you must select *"Cash flows"* to enter the cash inflows and the cash outflows. The program then displays the cash flows window.

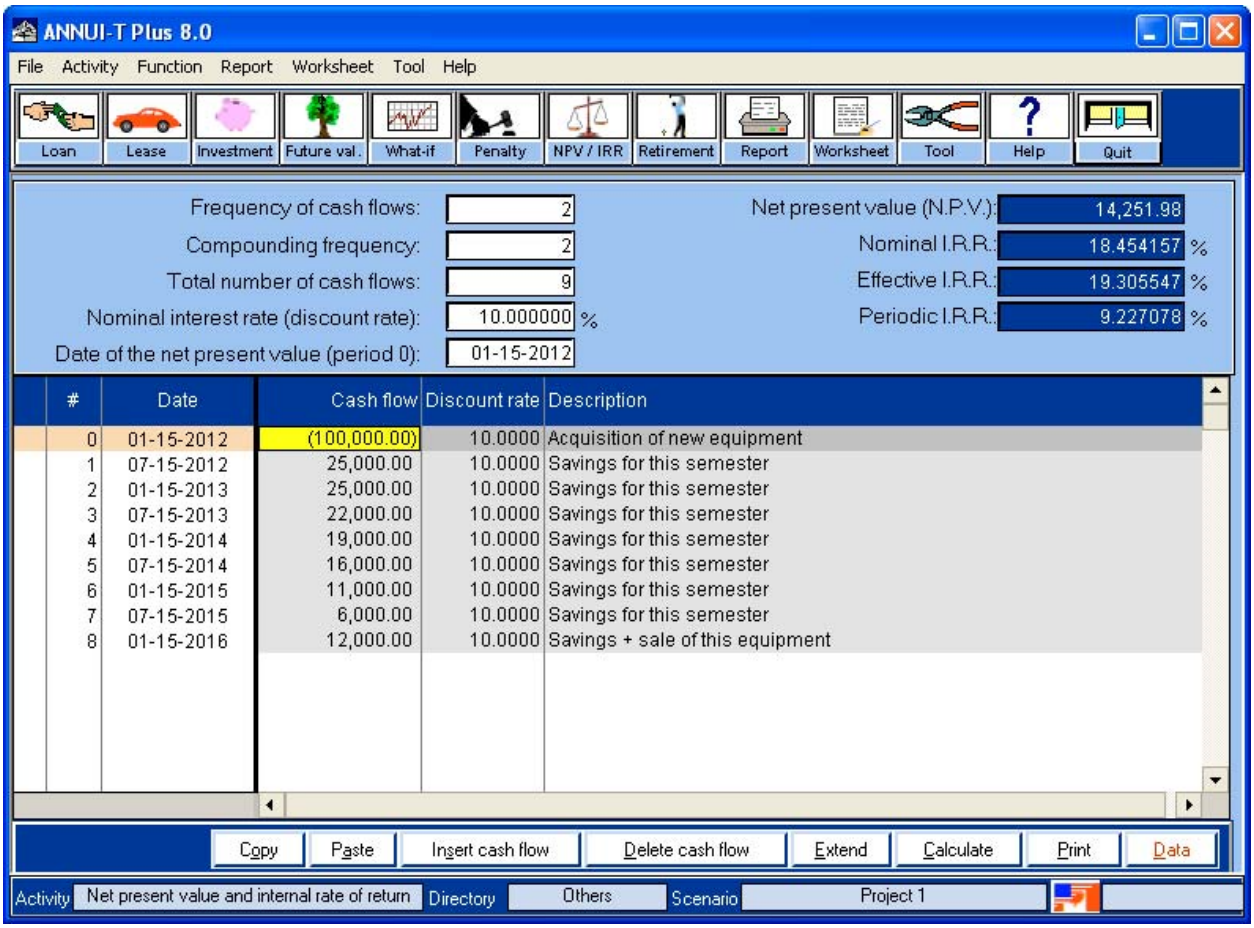

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Frequency of cash flows: 2
Compounding frequency: 2
Total number of cash flows: 9
Nominal interest rate (discount rate): 10.000000 %
Date of the net present value (period 0): 01-15-2012
Net present value (N.P.V.): 14,251.98
Nominal I.R.R.: 18.454157 %
Effective I.R.R.: 19.305547 %
Periodic I.R.R.: 9.227078 %
# Date Cash flow Discount rate Description
0 01-15-2012 (100,000.00) 10.0000 Acquisition of new equipment
1 07-15-2012 25,000.00 10.0000 Savings for this semester
2 01-15-2013 25,000.00 10.0000 Savings for this semester
3 07-15-2013 22,000.00 10.0000 Savings for this semester
4 01-15-2014 19,000.00 10.0000 Savings for this semester
5 07-15-2014 16,000.00 10.0000 Savings for this semester
6 01-15-2015 11,000.00 10.0000 Savings for this semester
7 07-15-2015 6,000.00 10.0000 Savings for this semester
8 01-15-2016 12,000.00 10.0000 Savings + sale of this equipment
Copy Paste Insert cash flow Delete cash flow Extend Calculate Print Data
Activity Net present value and internal rate of return Directory Others Scenario Project 1

**Figure 7.02**
**Example of the cash flows window**

Notice that the dates are displayed in order to provide better references and to reduce the risk of error when you enter the cash flows.

**Note that a cash outflow (disbursement) must be entered as a negative number since a cash inflow has to be represented by a positive number.**

For each cash flow, you can modify the discount rate to take into account probabilities or other factors. You can also enter a brief description in order to document your analysis.

Since it frequently happens that the cash flow amount remains the same during a certain period of time, ANNUI-T allows you to copy a line of cash flow. To proceed, first, you have to position the cursor on the line to be copied and select *"Copy"*. Then, you have to move the cursor on the first line where you want to copy the line and select *"Paste"*. A screen is then displayed to enter the number of lines to paste. In this window, you can also indicate what you wish to copy (cash flow and/or rate and/or the description).

It is also possible to insert a line (*"Insert cash flow")* and to delete a line (*"Delete cash flow"*). In both cases, you have to position the cursor on the line before selecting the function.

Finally, the program allows you to add new lines of cash flows. To do so, you simply have to select *"Extend"* and enter the number of new lines desired.

Once all the cash flows are entered, to determine the N.P.V. and the I.R.R., you must select *"Calculate".* Concerning the I.R.R., the program displays 3 different rates: the nominal rate, the effective rate (the real interest rate based on the compounding frequency) and the periodic rate (the periodic interest factor).

Of course, if the cash flow frequency and the compounding frequency are both annual, the nominal I.R.R., the effective I.R.R. and the periodic I.R.R. are all equal. In fact, it is the case for most examples that are found in the financial manuals because the authors try to facilitate the reader's understanding.

However, in reality, the cash flows can occur in all kinds of frequencies. **Therefore, for better accuracy, it is always preferable to proceed with the highest cash flow frequency.**

For example, if certain cash flows are annual while others are monthly, you must select a monthly frequency. This way you can register all of the cash flows according to their real frequency.

It is important to note that while the program calculates the N.P.V. and the I.R.R., all the lines following the last entered cash flow are erased. The purpose is to eliminate the lines that are not effective. However, if by error, you select *"Calculate"* before having entered all the cash flows, you can always use the *"Extend"* function to add additional lines.

Finally, it occurs sometimes that the calculation of the I.R.R. causes an error. This happens when the scenario does not make sense, in other words, when it becomes impossible to determine the I.R.R. since the result is too high or too low.

# 8. RETIREMENT (RETIREMENT PLANNING)

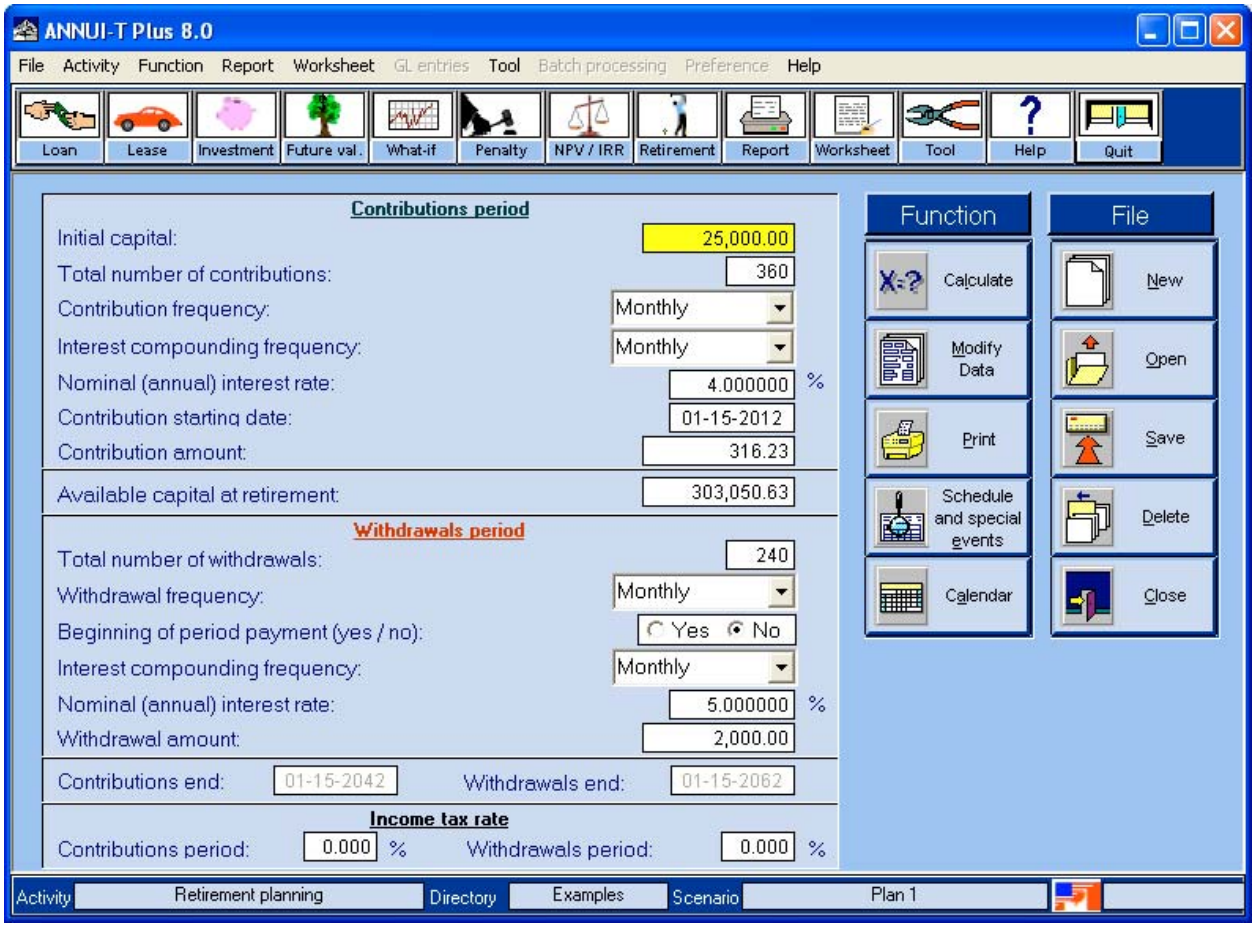

ANNUI-T Plus 8.0
File Activity Function Report Worksheet GL entries Tool Batch processing Preference Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Contributions period
Initial capital: 25,000.00
Total number of contributions: 360
Contribution frequency: Monthly
Interest compounding frequency: Monthly
Nominal (annual) interest rate: 4.000000 %
Contribution starting date: 01-15-2012
Contribution amount: 316.23
Available capital at retirement: 303,050.63
Withdrawals period
Total number of withdrawals: 240
Withdrawal frequency: Monthly
Beginning of period payment (yes / no): Yes No
Interest compounding frequency: Monthly
Nominal (annual) interest rate: 5.000000 %
Withdrawal amount: 2,000.00
Contributions end: 01-15-2042 Withdrawals end: 01-15-2062
Income tax rate
Contributions period: 0.000 % Withdrawals period: 0.000 %
Function
Calculate
Modify Data
Print
Schedule and special events
Calendar
File
New
Open
Save
Delete
Close
Activity Retirement planning Directory Examples Scenario Plan 1

**Figure 8.01**
**Data entry window of the retirement planning module**

This module allows you to calculate and visualize the schedule of a retirement plan, i.e.; scenarios in which a person makes periodical deposits ("contributions") until his retirement and then withdraws funds during a certain number of years.

As you can see, the data entry window of this retirement planning module is similar to the one used for annuities except that there are 2 sections: the contributions section and the withdrawals section.

The maximum duration is 50 years of contributions and 50 years of withdrawals.

The choices for payment and compounding frequencies are the same as for annuities.

The data entry window allows you to quickly answer all kinds of questions about retirement planning. Let us take an example. A man estimates that he will have to work another 30 years before his retirement. Ideally, he would like to withdraw $2,000.00 monthly during 20 years after his retirement.

He actually has $25,000.00 in an R.R.S.P. and he is aware that it is always more advantageous to make periodical deposits. He now wants to start depositing an amount in this fund every month.

He wonders what will be the necessary amount of monthly contribution in order to realize his objective if the annual interest rate, compounded monthly, is 4% during the contributions period and 5% during the withdrawals period. Finally, he is not planning to pay the income taxes on the R.R.S.P. withdrawals with these funds.

Answer: Based on these hypotheses, the required monthly contribution will be $316.23, which would provide a retirement capital of $303,050.63. This scenario is the one illustrated on the preceding page. With ANNUI-T, it is so easy to answer these kinds of questions!

Notice that in this example, the income tax rate is 0%. However, when you plan to pay the income tax on the interest income with these funds, you must enter an income tax rate.

For example, if during the contribution period, the estimated interest rate is 6% and the income tax rate is 50%, the program will produce the schedule using 3% as the real interest rate.

As for annuities, when you select “Calculate”, there has to be no more than 1 unknown value in each of the 2 sections (“contributions” and “withdrawals”).

Nevertheless, in the contributions section, the field “Initial capital” is optional. If this field is the only one to be equal to 0, ANNUI-T assumes that this is the unknown value to calculate for the contribution section. If another field is unknown, the program then supposes that there is no initial capital and calculates the other value.

Notice that the field “Available capital at retirement” is between the 2 sections because this value is related to both of them. Indeed, for the contribution section, the capital at retirement represents the future value. For the withdrawal section, it is the initial amount.

For this reason, when you select “Calculate”, first, the program verifies that there is no more than 1 unknown per section. Then, if the capital at retirement is one of the value to calculate, ANNUI-T also verifies if there is enough known values to establish this amount.

Once the program has calculated the unknowns you can visualize the schedule by selecting “Schedule and special events”. In this screen, other possibilities are offered.

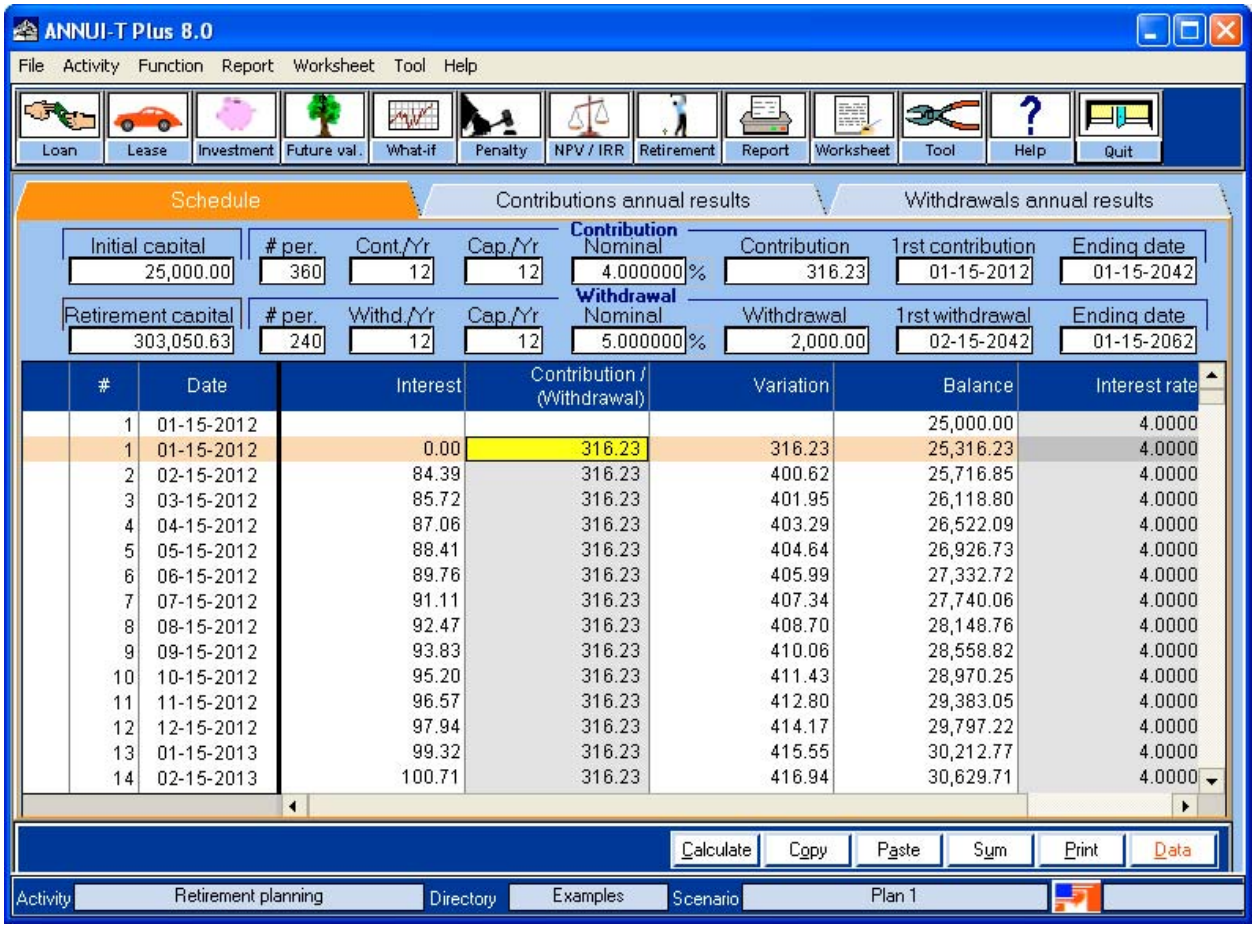



**Figure 8.02**
**Schedule of the retirement planning module**

In the schedule, during the contributions period, the balance increases until it becomes equivalent to the retirement capital. During the withdrawals period, the balance decreases until the end.

It is important to note that in this schedule, contributions are represented by positive amounts and withdrawals by negative amounts.

Even if the schedule is similar to the one used for annuities, the functioning is a little different. First, modifications are made directly in the schedule. You simply have to position the cursor on the field to modify and enter the desired value.

**For each period, you can modify, as you wish, the contribution amount or the withdrawal amount or the interest rate.**

The modifications are normally made to register special events that could occur in the future (retirement allowance, sale of an asset, etc.) or to analyze the impact of different changes.

Note that on each line, you can also enter a brief description in order to document the modifications and the special events. To access this column, you can use the right arrow or the scroll arrow.

If a modification is effective for more than one period, it is recommended using the functions *"Copy"* and *"Paste"*. To do so, you must begin by registering a first modification and select *"Copy"*. Then, you have to move the cursor on the first line where you want to copy the change and select *"Paste"*. A screen is then displayed to enter the number of lines to paste. In this window, you can also indicate what you wish to copy (amount and/or the interest rate and/or the description).

When modifications have been made to the schedule, you must then select "Calculate" to upgrade the schedule. **ANNUI-T offers 4 choices of calculation:**

- **Calculation of the new regular contribution and the new regular withdrawal in order to preserve the same retirement capital and the same duration of withdrawals.**

- **Calculation of the new retirement capital and the new regular withdrawal.**

- **Calculation of the new regular contribution only. In this case, the retirement capital remains the same. However, if modifications were made in the withdrawals section, the duration of the withdrawals may be shortened or ended with a "balloon payment".**

- **Calculation of the schedule without modifying the regular contribution amount nor the regular withdrawal amount.**

Notice that in the schedule, the *"Undo calculate"* icon allows you to cancel the calculation and return to the previous situation (the one before selecting the *"Calculate"* function) which is useful in case of an error.

Finally, in this schedule, you also have the *"Sum"* and *"Print"* functions. You can also obtain the annual results by selecting *"Contributions annual results"* and *"Withdrawals annual results"*. By default, these annual results are established on the civil year basis but it is always possible to choose any other desired date.

## 9. WHAT-IF

This applies for annuities (loans, leases and investments) but also for future values. The *''What-if''* tool is very useful to obtain a quick evaluation of impacts when any given basic information is changed (initial amount, number of periods, interest rate, etc).

First, you have to enter the basic information of the initial scenario (the one to be compared to) except the unknown value. In the case of a mortgage loan, if you wish, you can also enter a duration for the term.

Next, in the column ''Variation'', you have to click on the element to vary. Unless you choose the payment frequency or the compounding frequency, you must indicate the variation. Finally, to calculate the unknown value and to generate the data, you have to select *''Calculate''*.

The following illustrates an example.

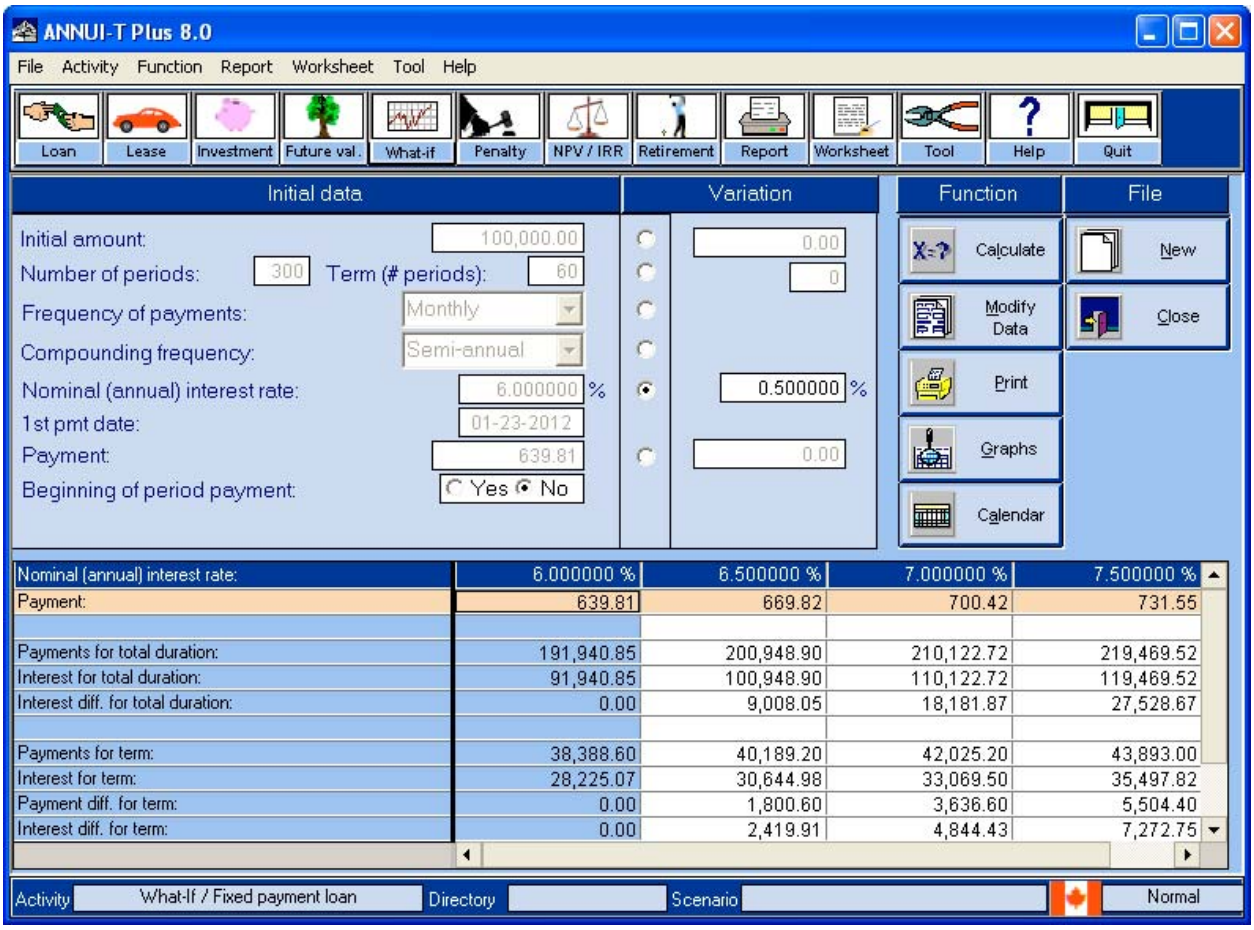

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Initial data
Variation
Function
File
Initial amount: 100,000.00
Number of periods: 300 Term (# periods): 60
Frequency of payments: Monthly
Compounding frequency: Semi-annual
Nominal (annual) interest rate: 6.000000 %
1st pmt date: 01-23-2012
Payment: 639.81
Beginning of period payment: Yes No
0.00
0
0.500000 %
0.00
Calculate
New
Modify Data
Close
Print
Graphs
Calendar
Nominal (annual) interest rate: 6.000000 % 6.500000 % 7.000000 % 7.500000 %
Payment: 639.81 669.82 700.42 731.55
Payments for total duration: 191,940.85 200,948.90 210,122.72 219,469.52
Interest for total duration: 91,940.85 100,948.90 110,122.72 119,469.52
Interest diff. for total duration: 0.00 9,008.05 18,181.87 27,528.67
Payments for term: 38,388.60 40,189.20 42,025.20 43,893.00
Interest for term: 28,225.07 30,644.98 33,069.50 35,497.82
Payment diff. for term: 0.00 1,800.60 3,636.60 5,504.40
Interest diff. for term: 0.00 2,419.91 4,844.43 7,272.75
Activity What-If / Fixed payment loan
Directory
Scenario
Normal

**Figure 9.01:**
**Example of the data entry window for the What-if function**

In this example, a $100,000 mortgage loan is amortized over 25 years at 6% and is repayable by monthly payments. The term is 5 years. In this case, we want to know the impacts of a .5% rate variation. ANNUI-T then displays the initial scenario and 10 others, one for each rate variation (up to 11% in this example). The program gives you the results and the differences compared to the initial scenario. These results are given for the term and the complete duration of the mortgage loan.

Note that there is also an icon to display these results with all kinds of graphs. The following is an example:

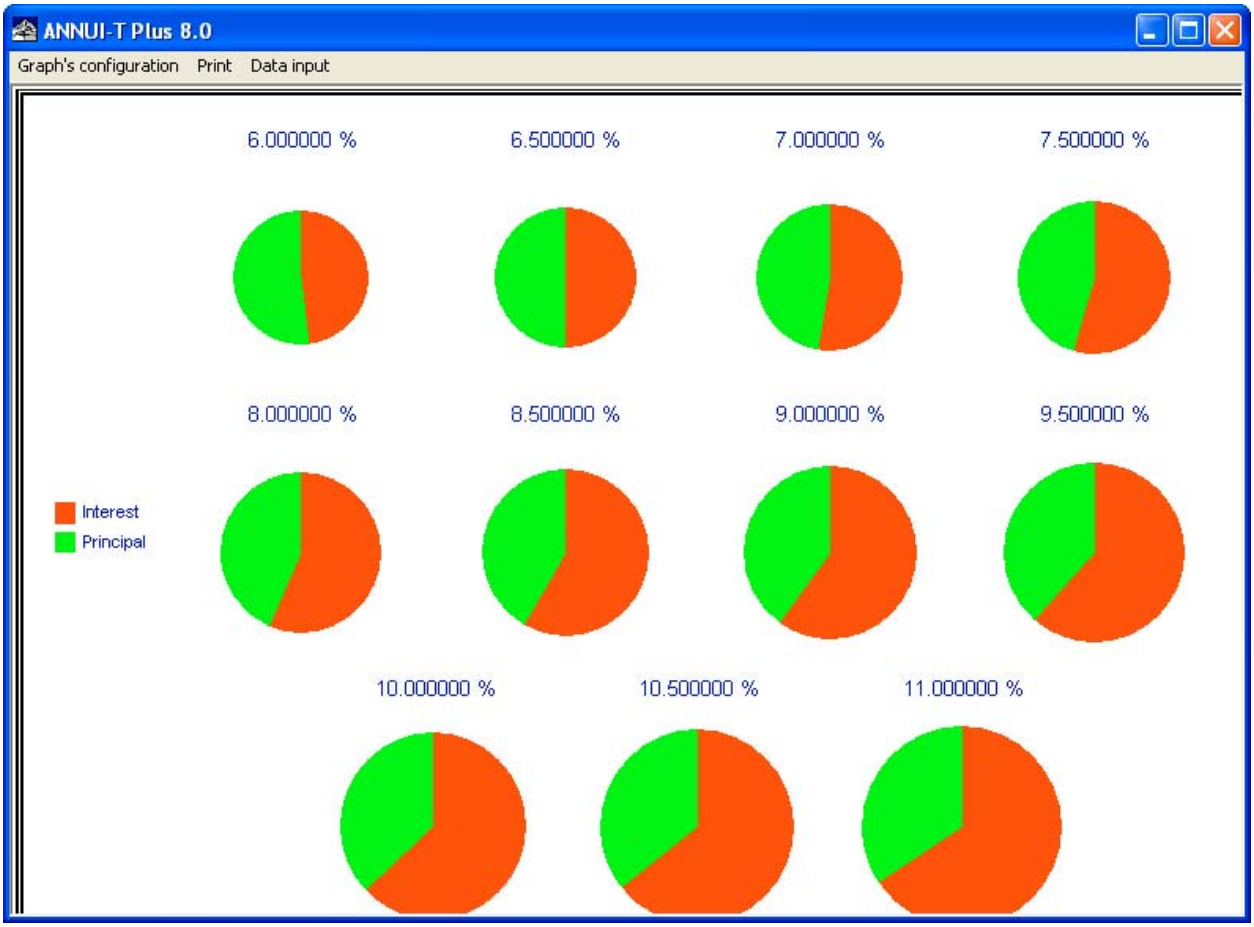



**Figure 9.02:**
**Graph example**

Many options are available to generate your graph. You simply have to select from the menu *''Graph's configuration''*.

Note that since you can compare up to 11 scenarios (initial scenario plus 10 variations), it happens sometimes that for certain types of graphs, the results are not very clear. In these circumstances, it is preferable to reduce the number of scenarios selected.

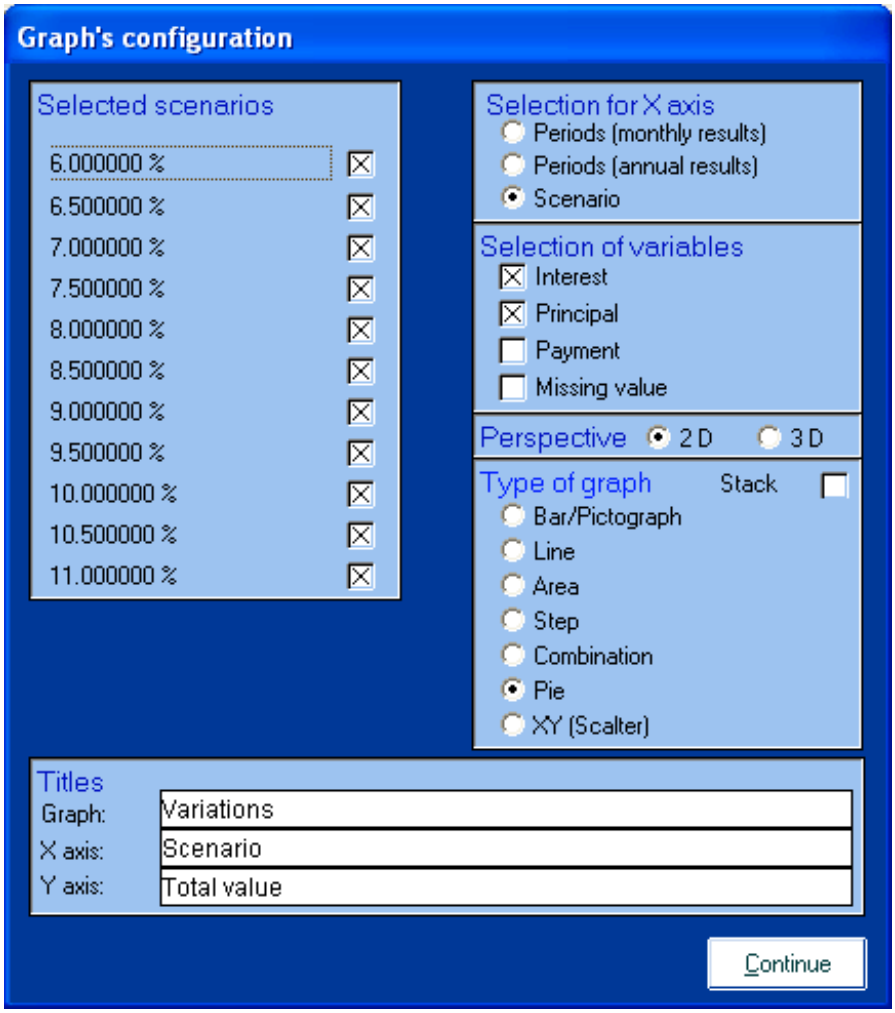



**Figure 9.03:**
**Graph's configuration**

## 10. U.S. CALCULATION METHODS

ANNUI-T also offers the possibility to calculate interest using US methods. There are 3 different methods: “Normal“, “US Rule“ and “Rule of 78“.

**“Normal”**

This method is known as the actuarial method. Interest is compounded which means that any amount of unpaid interest is added to the balance. In these circumstances, interest is sometimes calculated on interest.

This method is based on the assumption that every period has the same importance and assumes that a year is composed of equal periods (for example, one month = 1/12, one week = 1/52, etc) even if in reality, the number of days can be different from one period to another.

As long as the payment frequency is respected, the interest is obtained by multiplying the previous balance by the periodic interest rate. This rate always remains the same for every period.

However, for odd periods (irregular number of days), for example, a late payment, interest is not calculated the same way.

In fact, for odd periods, interest is calculated as follows:

Previous balance x NR x DE / DY

Where

NR = Nominal interest rate

DE = Number of days elapsed since last calculation date

DY = Days in year basis (360 or 364 or 365)

As you can see, in the United States, the days in year basis simply represents the denominator to be used in interest calculation for odd periods.

In Canada, the days in year basis is used to identify the interest calculation method. These Canadian methods can differ a lot from one to another depending on the days in year basis selected. For more details, please refer to the manual.

***"US Rule"***

During normal circumstances, this method is similar to the "Normal" method. In other words, the same mathematical formulas are applied.

However, when a payment is insufficient to cover the interest to be paid, late interest must be held in a separate balance. With "US Rule", no interest must be charged on late interest.

Late payments are always applied first to the unpaid interest and the remaining amount to the principal.

Note that the schedule has more columns when "US Rule" is selected.

**"Rule of 78"**

"Rule of 78" does not represent a real interest calculation method but an estimation method used for allocating interest over time.

With "Rule of 78", first, the total amount of interest is pre-computed using any valid calculation method. Then a denominator has to be determined. To do so, all periods are added up. For example, in the case of a loan with 12 monthly payments, this calculation is done as follows:

1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 = 78

Finally, the first period interest is determined by multiplying the total interest amount by 12/78, the second by 11/78 and so on.

Let us take the case of a $10,000.00 loan amortized over 24 months bearing interest at 12%. Knowing that the monthly payment is $470.73, total interest is calculated as follows:

(24 x $470.73) – $10,000.00 = $1,297.52

The denominator to be used is then 300 (1 + 2 +…+ 24).

For the first period, interest would be $103.80 (which is $1,297.52 x 24/300).

Note that there are many restrictions with "Rule of 78". First, this method is only applicable for fixed payment scenarios. Furthermore, special series and modifications are not allowed (funds advances, withdrawals, interest changes, etc).

**“Exact days”**

Whatever the calculation method (“Normal“ or “US Rule“ or “Rule of 78“), you are allowed to choose “Exact days” in the compounding frequency box. This is used to compute interest based upon the exact number of days since the last interest calculation date. With this option, interest is calculated as follows:

Previous balance x NR x DE / DY

Where

NR = nominal interest rate

DE = Number of days elapsed since last calculation date

DY = Days in year basis (360 or 364 or 365)

## 11 WORKSHEETS

These worksheets are mainly for public accountants that have to prepare financial statements for which they have to sign a “Notice to Reader Report“ or a “Review Engagement Report“ or an “Auditors’ Report“.

Depending on the mandate, they usually must fill out many worksheets in order to support their financial statements. Some of these documents can require quite some time to prepare.

Once again, ANNUI-T Plus worksheets give accountants a way to save time but also to reduce the risk of errors and omissions. Furthermore, these tools can also contribute to improve the standardization of the work process.

With ANNUI-T Plus, if an accountant has saved his customer’s files, it will be possible for him to generate very quickly the worksheets related to the long-term debt and the classification of leases.

Some fields contain calculated amounts that can be overwritten. This provides more flexibility to the user. To restore the calculated amount to an overwritten field, simply select this field and press F8.

Remember that the program allows you to save this kind of worksheet. You can select this function in the “File“ menu which also gives you the possibility to open or delete a worksheet.

**Note that these worksheets are dynamic. It is possible, in a worksheet, to consult and even modify the schedule of any of the selected scenarios for the report. When you return into the worksheet, to reflect the changes, you simply have to click on ”Update”. You can also add or unselect scenarios for the report.**

**Because of this flexibility, instead of starting a new worksheet every year from the start, you just have to open the worksheet from the previous year, make necessary modifications (if needed), select *"Update"* and enter the new calculation date.**

For those who use CaseWare software, they can even export an ANNUI-T Plus worksheet in a CaseWare folder. Furthermore, Avantage PRO, now includes links to open ANNUI-T Plus files. Avantage PRO is a suite of accounting solutions (financial statements, budget, audit, review, etc).

**PROCEDURE TO SELECT THE SCENARIOS**

First, you have to indicate the type of scenario (loan, lease, investment or future value) and the desired report by clicking on the corresponding tabs. Secondly, you must indicate the disk drive and the directory containing the scenarios to be used for the worksheet. Thirdly, you have to select the scenarios. If you want to see the description of a scenario, click on *"Details".*

To make the selection, keep and hold the CTRL key and click on each of the desired scenarios. Remember that if the scenarios are consecutive in the list, you can save time proceeding by range. You simply have to click on the first scenario to be considered, hold down the SHIFT key and click on the last scenario of the group.

If you want to select files from different directories, once the selection is done for the first directory, you must click on *"Create list"*. Then, for each of the desired directories, you have to select the scenarios and click on *"Add"*. To look at the list of selected scenarios, simply click on *"View list"*. Note that it is always possible to remove scenarios from this list.

In addition, the user may also select all scenarios in a directory by clicking on *"Directories"* and *"Add"*.

Once the selection is done, click on *"Continue"*.

**"ACCRUED INTEREST"**

This procedure allows you to calculate the accrued interest of a group of scenarios at a given date. This report is mostly used by accountants when they have to prepare the financial statement.

If the accrued interest has to be determined at the end of the financial year, this amount is then an estimate of the interest for the interval of time beginning at the date of the last interest calculation included in the financial year and the date of the financial year-end.

The amount of accrued interest is established by using a pro rata, which is the number of days between these 2 dates in proportion to the number of days between the date of the last interest calculation included in the financial year and the first date of interest calculation following the end of the financial year.

This result is multiplied by the amount of interest of the first date of interest calculation following the end of the financial year.

To help you understand, let us take an example. An enterprise has only one loan. The payments have to be made on the 15th day of each month and the financial year ends on December 31st.

In this example, there are 16 days between the last date of interest calculation included in the financial year (December 15th) and the date of the financial year-end (December 31st). Moreover, there are 31 days between December 15th and the next date of interest calculation (January 15th). If the amount of interest on January 15th is $908.26, the accrued interest on December 31st is then $468.78 calculated as follows:

$$(16/31) \times \$908.26 = \$468.78$$

Therefore, the accrued interest report allows you to make the same kind of calculation for every selected scenario. On each line, you have a brief description of the scenario and the amount of accrued interest related to this scenario.

Note that it is possible for you to modify the amount of accrued interest established by the program. To do so, you have to position the cursor on the amount to be changed, click on *"Modify"* and enter the desired amount.

For example, this could be useful when the lender has estimated a different amount of accrued interest at the same date and you want to use his estimate.

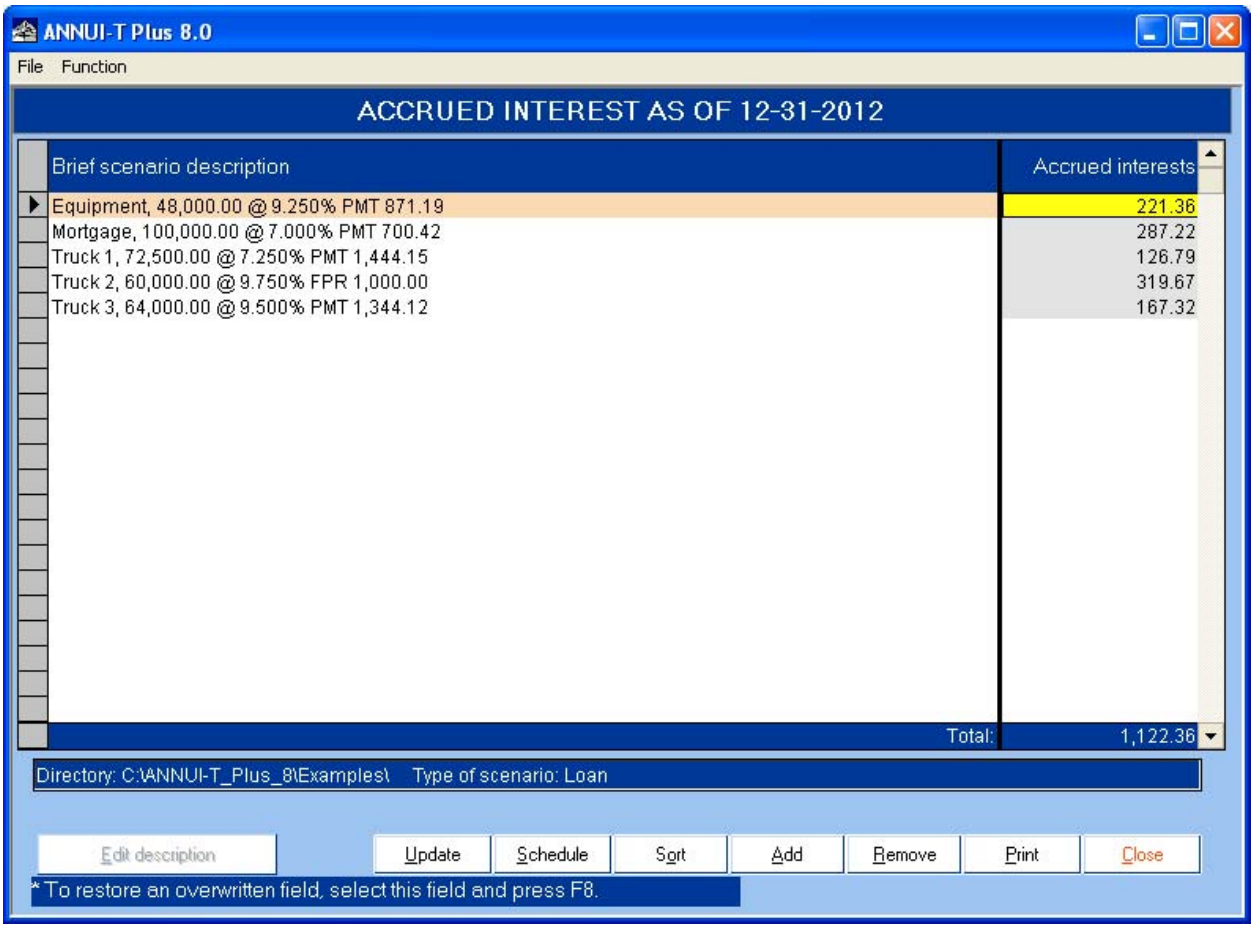



**Figure 4.18**
**Example of the "Accrued interest" report**

## "5 YEAR REPAYMENTS"

This function is used to generate the report of the principal repayments of the next 5 financial years. This kind of report is mostly used by accountants because it allows them to obtain the results for the note on the long-term debt in the financial statement.

For each selected loan, in the first column, there is a brief description. In the 5 following columns, you have the principal repayments of each of the selected 5 years. As usual, these amounts are rounded off to the nearest whole number.

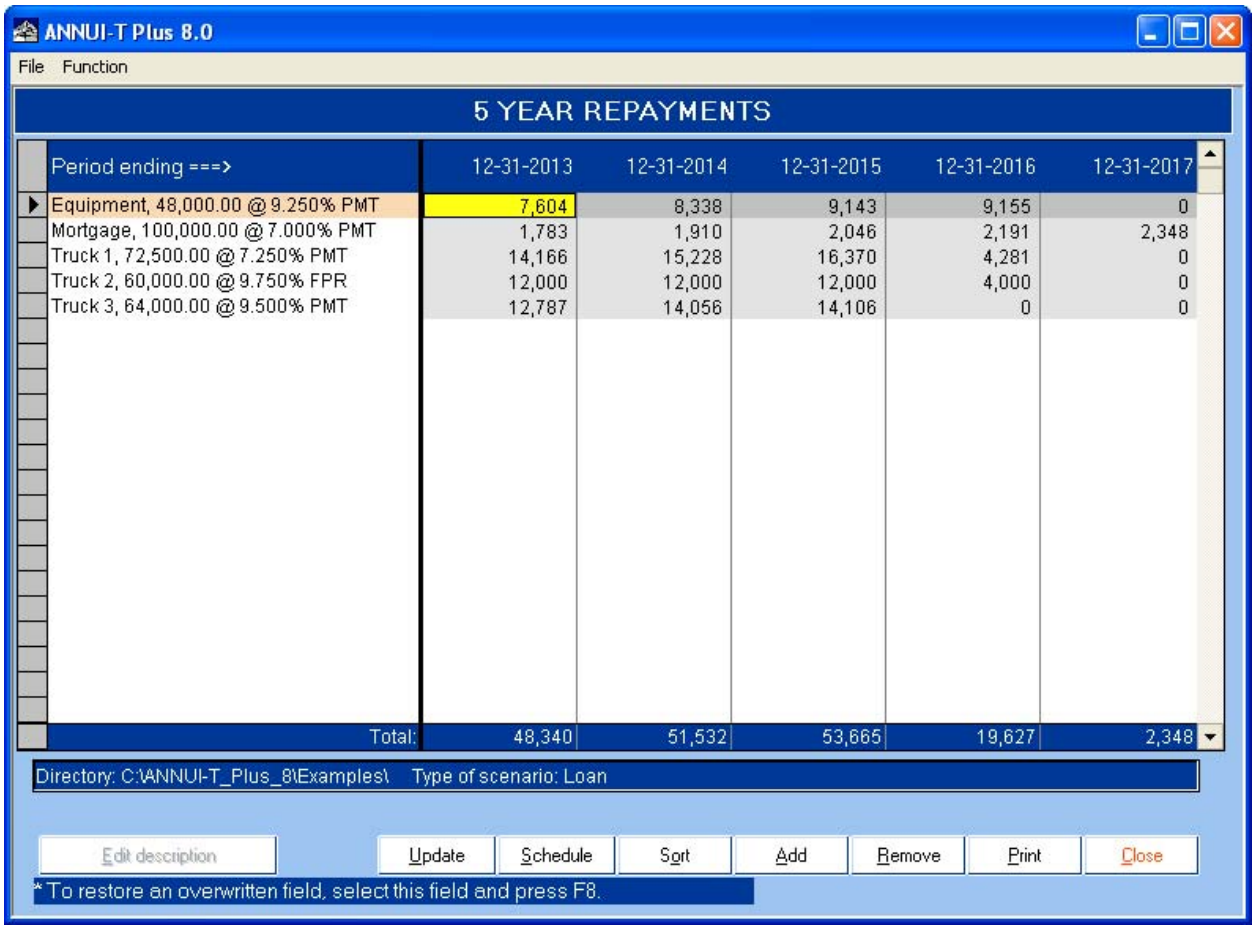

ANNUI-T Plus 8.0
File Function
5 YEAR REPAYMENTS
Period ending ===>
12-31-2013
12-31-2014
12-31-2015
12-31-2016
12-31-2017
Equipment, 48,000.00 @ 9.250% PMT 7,604 8,338 9,143 9,155 0
Mortgage, 100,000.00 @ 7.000% PMT 1,783 1,910 2,046 2,191 2,348
Truck 1, 72,500.00 @ 7.250% PMT 14,166 15,228 16,370 4,281 0
Truck 2, 60,000.00 @ 9.750% FPR 12,000 12,000 12,000 4,000 0
Truck 3, 64,000.00 @ 9.500% PMT 12,787 14,056 14,106 0 0
Total: 48,340 51,532 53,665 19,627 2,348
Directory: C:\ANNUI-T_Plus_8\Examples\ Type of scenario: Loan
Edit description
Update
Schedule
Sort
Add
Remove
Print
Close
* To restore an overwritten field, select this field and press F8.

**Figure 4.19**
**Example of the "5 year repayments" report**

As in the "Accrued interest" report, you can modify any calculated amount. To change an amount, you have to position the cursor on it and enter the desired amount.

For example, this modification is necessary when a loan matures within the selected 5 years and the total of the repayments exceeds the loan balance in the financial statement because of the rounding off.

**"5 YEAR LEASE PMT"**

This procedure is used to generate the report of the 5 year minimum payments for a group of leases.

This report is similar to the “5 year repayments” report and the functioning remains the same.

**"LEASE CONTRACT CLASSIFICATION"**

This function represents a tool to help you determine the nature of a lease contract based on the criteria defined in the CICA Handbook section 3065.

If the analysis has to be done from the lessee point of view (leaseholder), 4 factors have to be taken into account to determine if the lease contract has to be considered as a capital lease or as an operating lease.

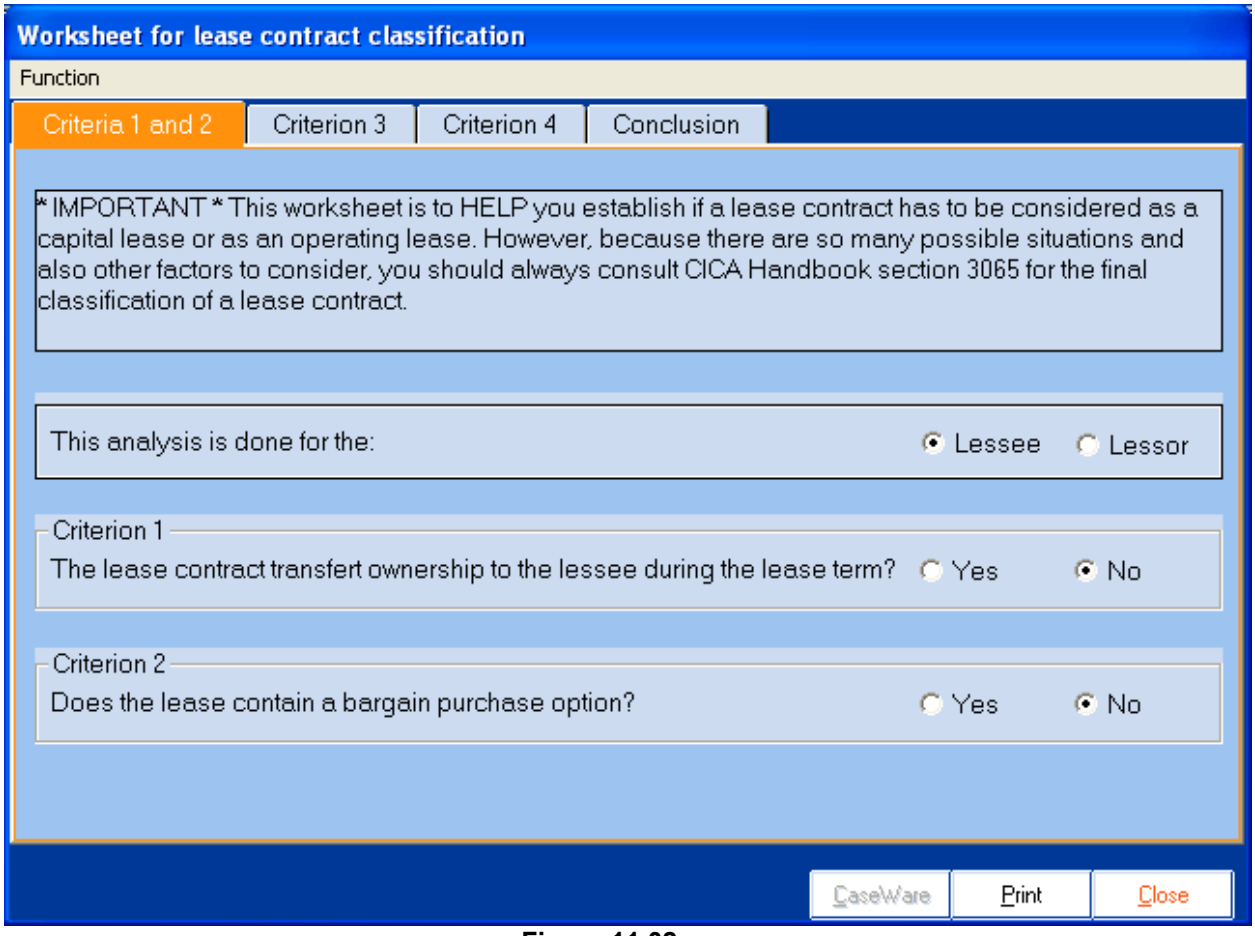

Worksheet for lease contract classification
Function
Criteria 1 and 2
Criterion 3
Criterion 4
Conclusion
* IMPORTANT * This worksheet is to HELP you establish if a lease contract has to be considered as a capital lease or as an operating lease. However, because there are so many possible situations and also other factors to consider, you should always consult CICA Handbook section 3065 for the final classification of a lease contract.
This analysis is done for the:
Lessee
Lessor
Criterion 1
The lease contract transfert ownership to the lessee during the lease term?
Yes
No
Criterion 2
Does the lease contain a bargain purchase option?
Yes
No
CaseWare
Print
Close

**Figure 11.02:**
**Example of criteria 1 and 2 in the lease contract analysis worksheet**

For the first criterion, you have to indicate if a transfer of ownership is highly anticipated by the end of the lease term. Note that the contract does not have to contain an explicit transfer of property to the lessee. In fact, if there is reasonable assurance, based on certain contract conditions, that the lessee will obtain ownership of the leased asset, you must answer “Yes” to this question.

For the second criterion, you have to establish if the lease contract includes a bargain purchase option. In other words, the answer must be “Yes” when the amount of the option is so low compared to the fair value at the option date that the purchase is reasonably assured.

The third criterion is used to verify if the duration of the lease (based on the definition of the CICA Handbook section 3065) is long enough to give substantially to the lessee all the economic benefits of the asset based on the estimated economic life. In fact, it is considered to be the case when the lease term equals 75% or more of the leased asset economic life. In this window, for this criterion, the user must enter the duration of the economic life in years. Then the program calculates this duration in periods. ANNUI-T also calculates the lease duration in periods but the user is allowed to modify this cell, for example, to consider a bargain lease renewal option that is reasonably assured.

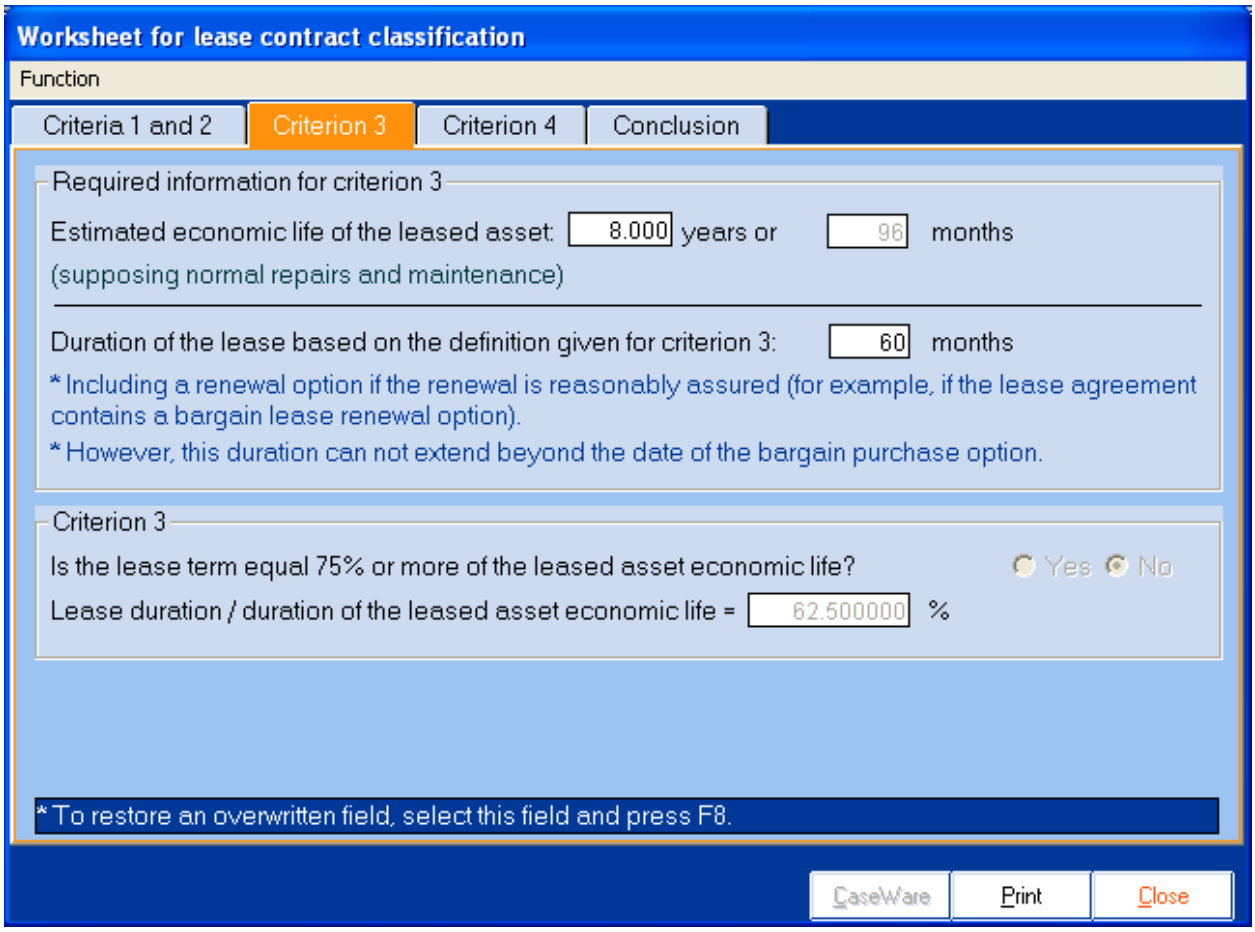

Worksheet for lease contract classification
Function
Criteria 1 and 2
Criterion 3
Criterion 4
Conclusion
Required information for criterion 3
Estimated economic life of the leased asset: 8.000 years or 96 months
(supposing normal repairs and maintenance)
Duration of the lease based on the definition given for criterion 3: 60 months
* Including a renewal option if the renewal is reasonably assured (for example, if the lease agreement contains a bargain lease renewal option).
* However, this duration can not extend beyond the date of the bargain purchase option.
Criterion 3
Is the lease term equal 75% or more of the leased asset economic life? Yes No
Lease duration / duration of the leased asset economic life = 62.500000 %
* To restore an overwritten field, select this field and press F8.
CaseWare
Print
Close

**Figure 11.03: Example of criterion 3 in the lease contract analysis worksheet**

The main advantage of ANNUI-T software for lease contract classification happens with the fourth criterion. In fact, for this criterion, the accountant has to establish if the lessor is assured of recovering his investment plus an earning on his investment with the lease agreement. The answer will be “Yes” if the present value of the “minimum lease payments” (based on the definition contained in CICA Handbook section 3065), excluding executory costs, represent 90% or more of the leased asset fair market value at the beginning of the lease contract.

The program calculates the implicit interest rate of the lease contract but you are allowed to modify this rate. Concerning the incremental borrowing rate of the lessee, if this rate is unknown, you have to leave this box blank or enter “0”. When this field contains a rate that is lower than the implicit interest rate, the borrowing rate of the lessee is then the one to use as the discount rate to calculate the present value of the “minimum lease payments”.

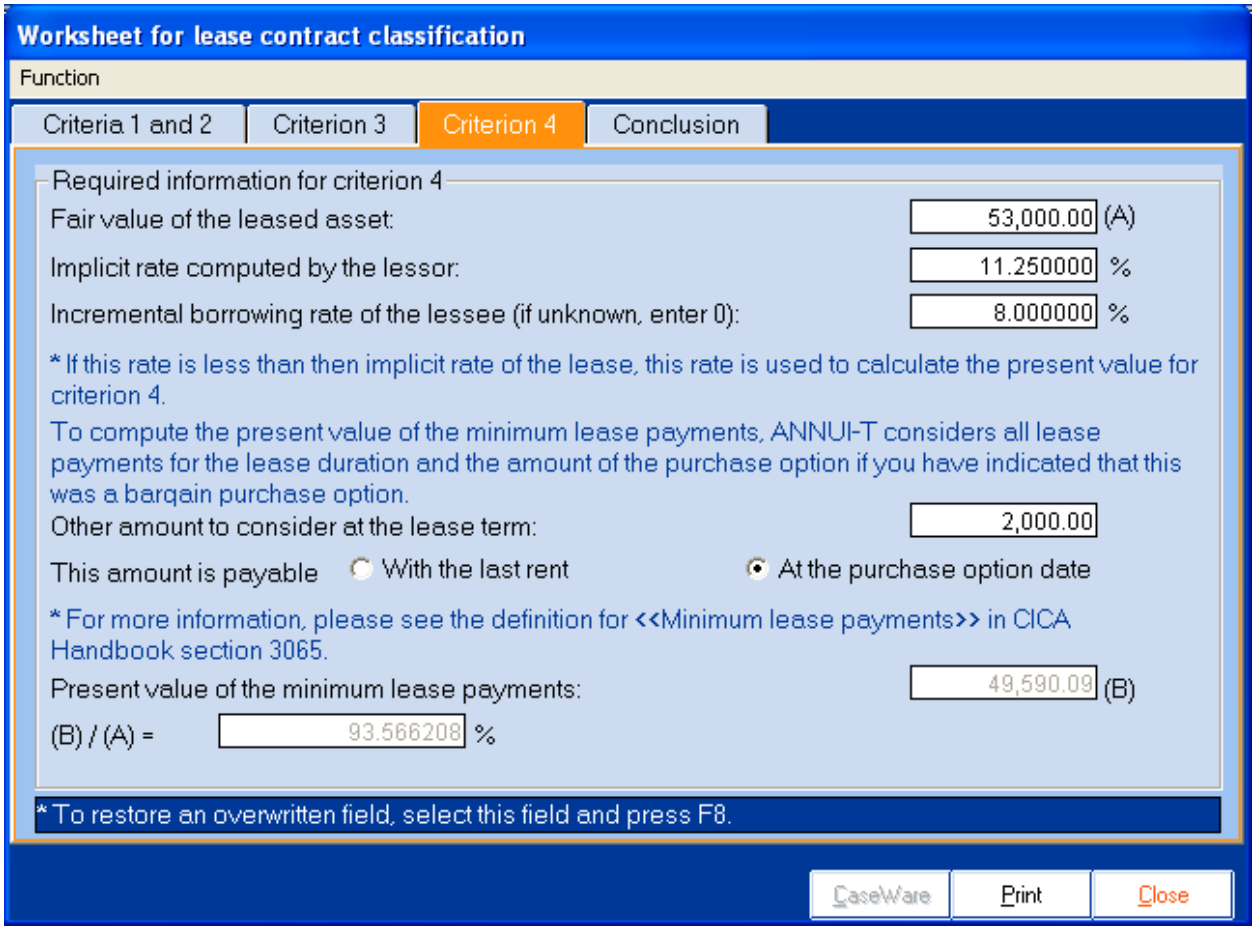

Worksheet for lease contract classification
Function
Criteria 1 and 2
Criterion 3
Criterion 4
Conclusion
Required information for criterion 4
Fair value of the leased asset:
53,000.00
(A)
Implicit rate computed by the lessor:
11.250000
%
Incremental borrowing rate of the lessee (if unknown, enter 0):
8.000000
%
* If this rate is less than then implicit rate of the lease, this rate is used to calculate the present value for criterion 4.
To compute the present value of the minimum lease payments, ANNUI-T considers all lease payments for the lease duration and the amount of the purchase option if you have indicated that this was a bargain purchase option.
Other amount to consider at the lease term:
2,000.00
This amount is payable
With the last rent
At the purchase option date
* For more information, please see the definition for <<Minimum lease payments>> in CICA Handbook section 3065.
Present value of the minimum lease payments:
49,590.09
(B)
(B) / (A) =
93.566208
%
* To restore an overwritten field, select this field and press F8.
CaseWare
Print
Close

**Figure 11.04:**
**Example of criterion 4 in the lease contract analysis worksheet**

Once all data is entered for the 4 criteria, you simply have to select the tab "Conclusion" to obtain the results and an opinion on the nature of the lease contract. In fact, if one or more of these conditions are met, the lease contract is presumed to be a capital lease, if not, it is an operating lease. **However, you should always refer to CICA Handbook section 3065 for the final classification of the lease.**

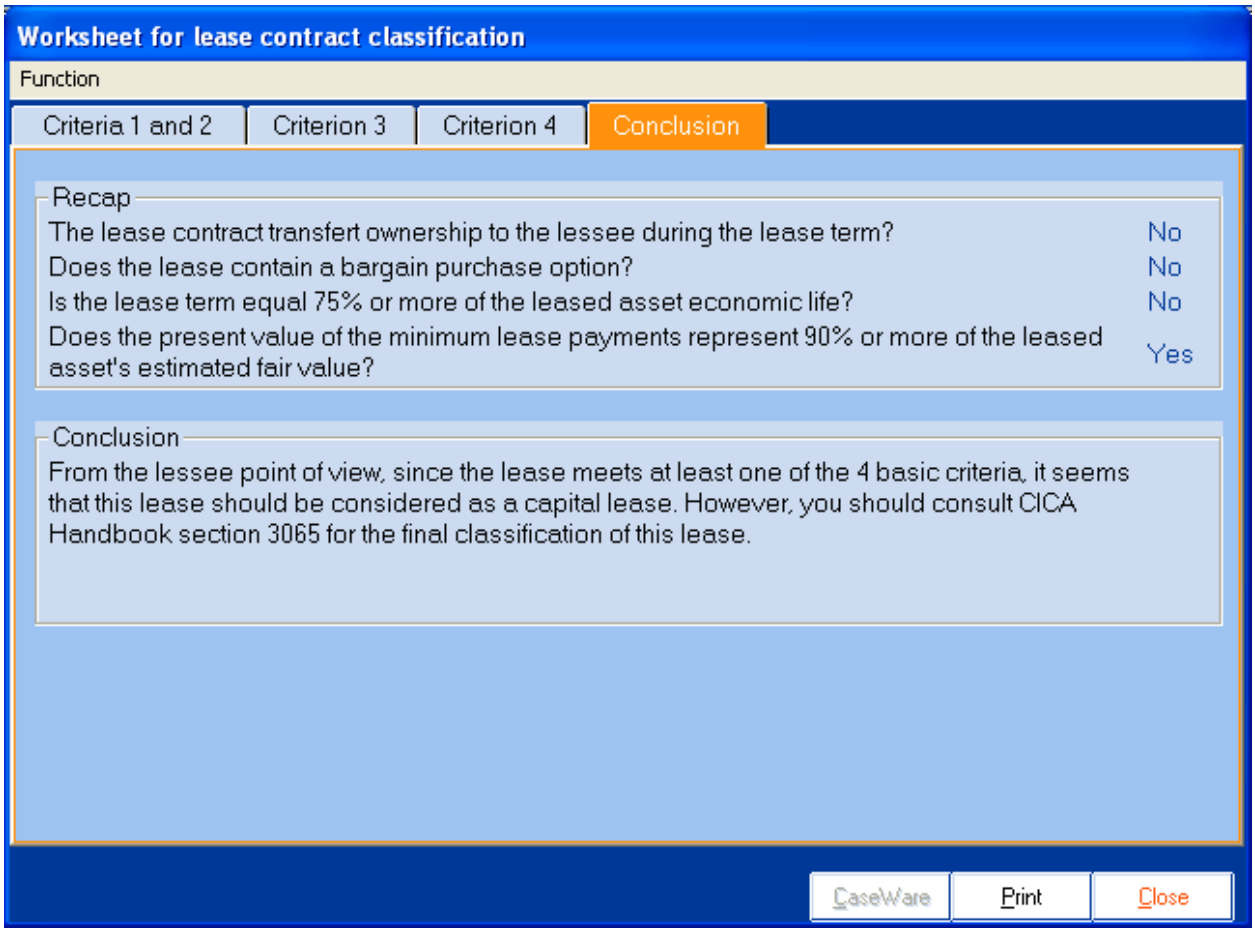

Worksheet for lease contract classification
Function
Criteria 1 and 2
Criterion 3
Criterion 4
Conclusion
Recap
The lease contract transfert ownership to the lessee during the lease term?
No
Does the lease contain a bargain purchase option?
No
Is the lease term equal 75% or more of the leased asset economic life?
No
Does the present value of the minimum lease payments represent 90% or more of the leased asset's estimated fair value?
Yes
Conclusion
From the lessee point of view, since the lease meets at least one of the 4 basic criteria, it seems that this lease should be considered as a capital lease. However, you should consult CICA Handbook section 3065 for the final classification of this lease.
CaseWare
Print
Close

**Figure 11.05:**
**Example of the conclusion in the lease contract analysis worksheet**

If the analysis must be done from the lessor point of view, the same criteria apply. However, for the 4th criterion, the calculation of the "minimum lease payments" present value, as requested by the CICA Handbook, the lease implicit interest rate is used as the discount rate.

Furthermore, when the analysis is performed from the lessor point of view, 2 other questions have to be answered. First, you have to indicate if whether or not the lease includes abnormal risks. Secondly, you must indicate if the lease contract includes other estimable costs that will occur after the year-end.

If one or more of the 4 basic criteria are met **and** that you have answered “No“ to the 2 questions, then the lease should be considered as a capital lease, if not, as an operating lease. **However, once again, you should verify with CICA Handbook section 3065 for the final conclusion on the classification of the lease.**

## "LONG-TERM DEBT PRESENTATION "

This module helps you determine the amount to be displayed for current liabilities and the amount for long-term liabilities in the balance sheet based on the accounting recommendations of the Emerging Issues Committee (EIC-122). **These rules are effective for fiscal years beginning on or after January 1st, 2002**.

In this worksheet, there is one line for each selected loan. A brief description of the loan is written in the first column. In the second column, the maturity date or the end of term date is displayed, according to which date comes first. The balance of the loan at year-end appears in the third column.

The 3 following columns represent factors to consider when establishing the amount of the loan balance that has to be presented in the current liabilities.

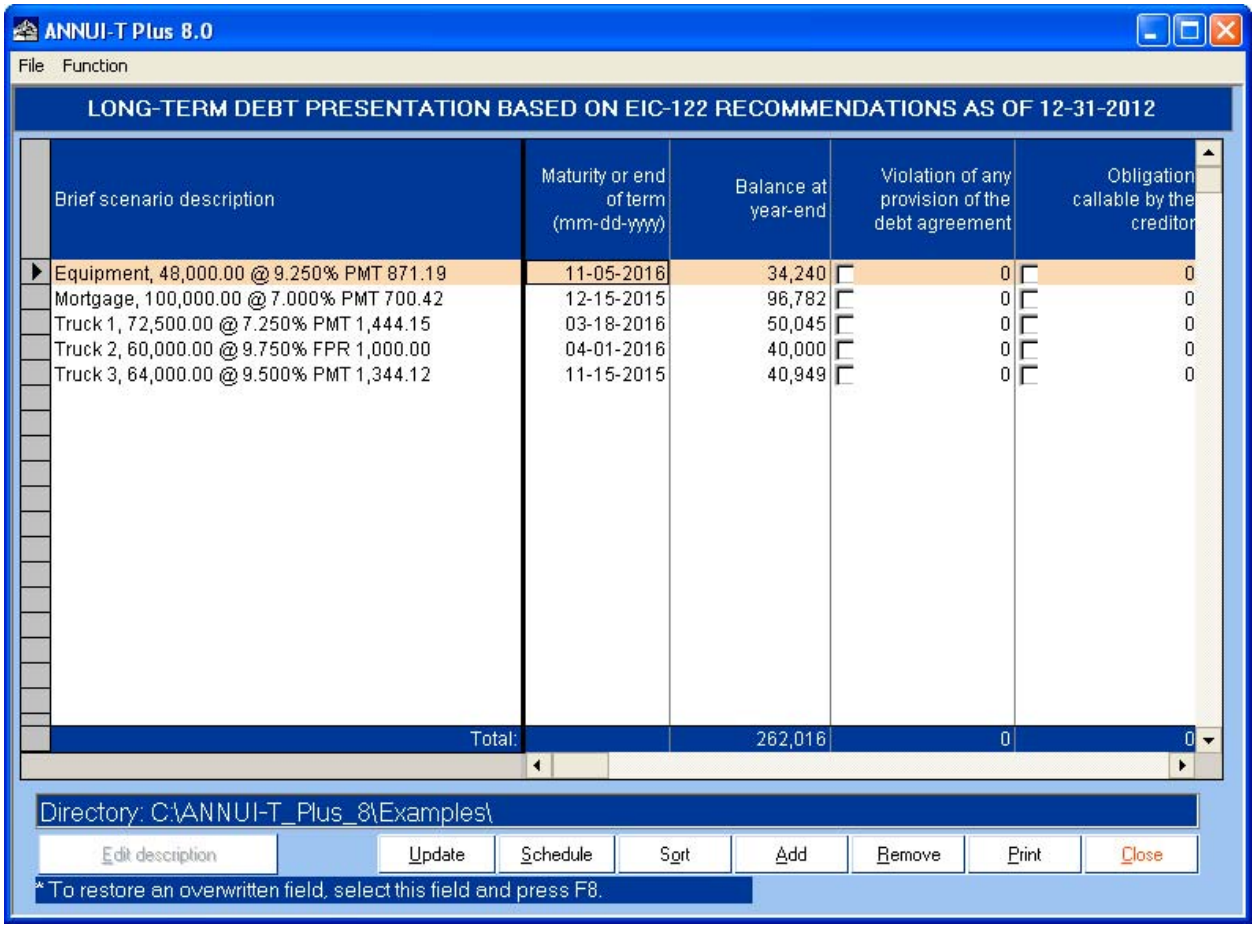

ANNUI-T Plus 8.0
File Function
LONG-TERM DEBT PRESENTATION BASED ON EIC-122 RECOMMENDATIONS AS OF 12-31-2012
Brief scenario description
Maturity or end of term (mm-dd-yyyy)
Balance at year-end
Violation of any provision of the debt agreement
Obligation callable by the creditor
Equipment, 48,000.00 @ 9.250% PMT 871.19 11-05-2016 34,240 0 0
Mortgage, 100,000.00 @ 7.000% PMT 700.42 12-15-2015 96,782 0 0
Truck 1, 72,500.00 @ 7.250% PMT 1,444.15 03-18-2016 50,045 0 0
Truck 2, 60,000.00 @ 9.750% FPR 1,000.00 04-01-2016 40,000 0 0
Truck 3, 64,000.00 @ 9.500% PMT 1,344.12 11-15-2015 40,949 0 0
Total: 262,016 0 0
Directory: C:\ANNUI-T_Plus_8\Examples\
Edit description
Update
Schedule
Sort
Add
Remove
Print
Close
* To restore an overwritten field, select this field and press F8.

**Figure 11.06:**
**Long-term debt presentation window (first part)**

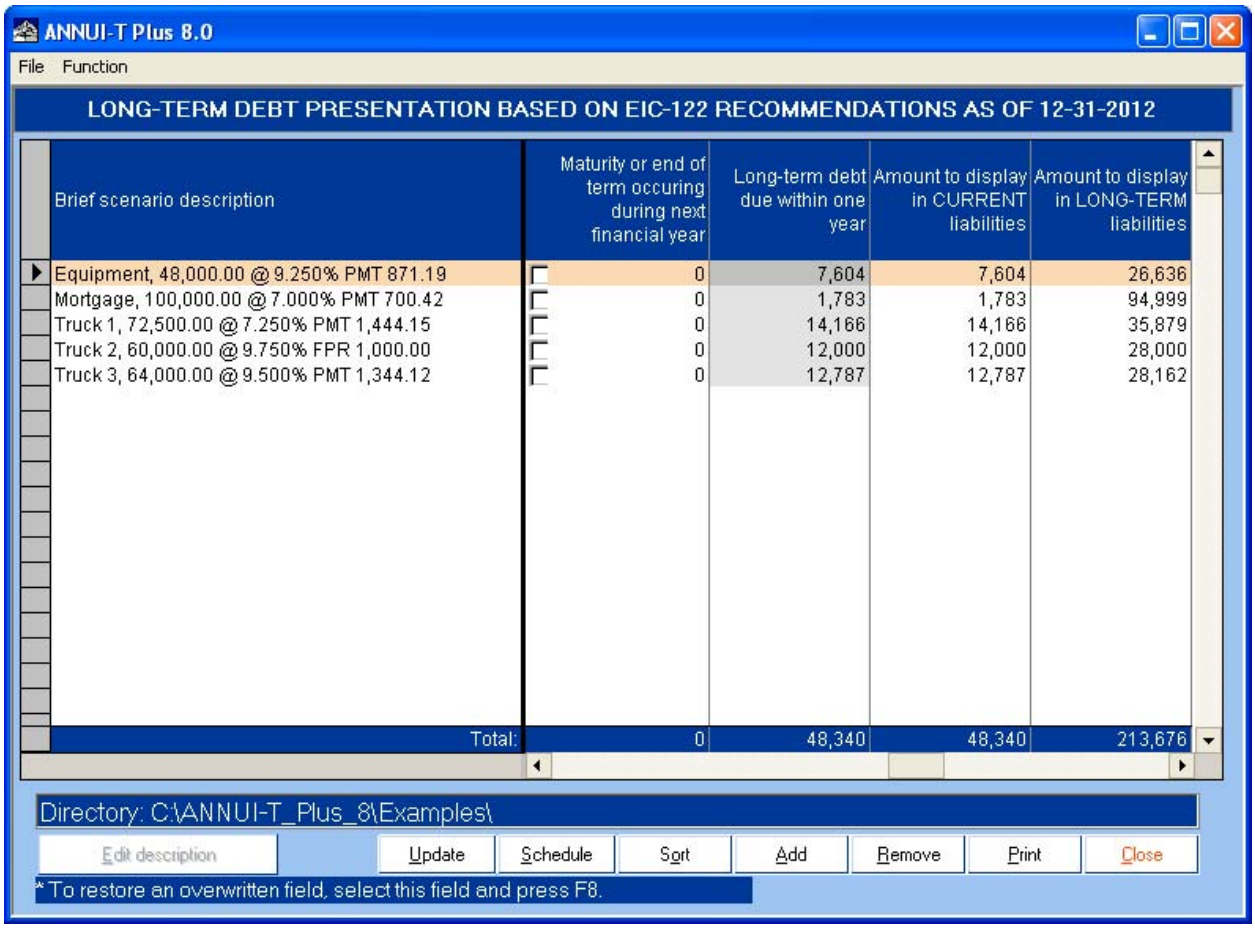

ANNUI-T Plus 8.0
File Function
LONG-TERM DEBT PRESENTATION BASED ON EIC-122 RECOMMENDATIONS AS OF 12-31-2012
Brief scenario description
Maturity or end of term occuring during next financial year
Long-term debt due within one year
Amount to display in CURRENT liabilities
Amount to display in LONG-TERM liabilities
Equipment, 48,000.00 @ 9.250% PMT 871.19 0 7,604 7,604 26,636
Mortgage, 100,000.00 @ 7.000% PMT 700.42 0 1,783 1,783 94,999
Truck 1, 72,500.00 @ 7.250% PMT 1,444.15 0 14,166 14,166 35,879
Truck 2, 60,000.00 @ 9.750% FPR 1,000.00 0 12,000 12,000 28,000
Truck 3, 64,000.00 @ 9.500% PMT 1,344.12 0 12,787 12,787 28,162
Total: 0 48,340 48,340 213,676
Directory: C:\ANNUI-T_Plus_8\Examples\
Edit description
Update
Schedule
Sort
Add
Remove
Print
Close
* To restore an overwritten field, select this field and press F8.

**Figure 11.07:**
**Long-term debt presentation window (last part)**

For example, there is a column to select in case of violation of any provision of the debt agreement. In these circumstances, you have to click on the checkbox at the beginning of this field. By default, the entire amount of the loan balance is then displayed in the current liabilities but you are allowed to enter a different amount.

It is important to note that it is possible to add lines, for example, to include advances from shareholders. To do so, simply click on *"Add"* and enter a brief description of the loan. Then, fill out the fields in the columns. Remember that you can also delete an added line by positioning the cursor on this line and by selecting *"Remove"*.

**Finally, if you have any doubt concerning the balance sheet presentation of a loan, you should always refer to the EIC 122 recommendations.**

**" LONG-TERM DEBT SUMMARY "**

This function provides information to support the financial statements and the note concerning the long-term debt.

In the first column, a brief description of the loan, the name of the debtor and the securities related to the loan are displayed. In the second column, the maturity date or the end of term date is shown, whichever comes first. The interest rate effective at year-end is in the third column.

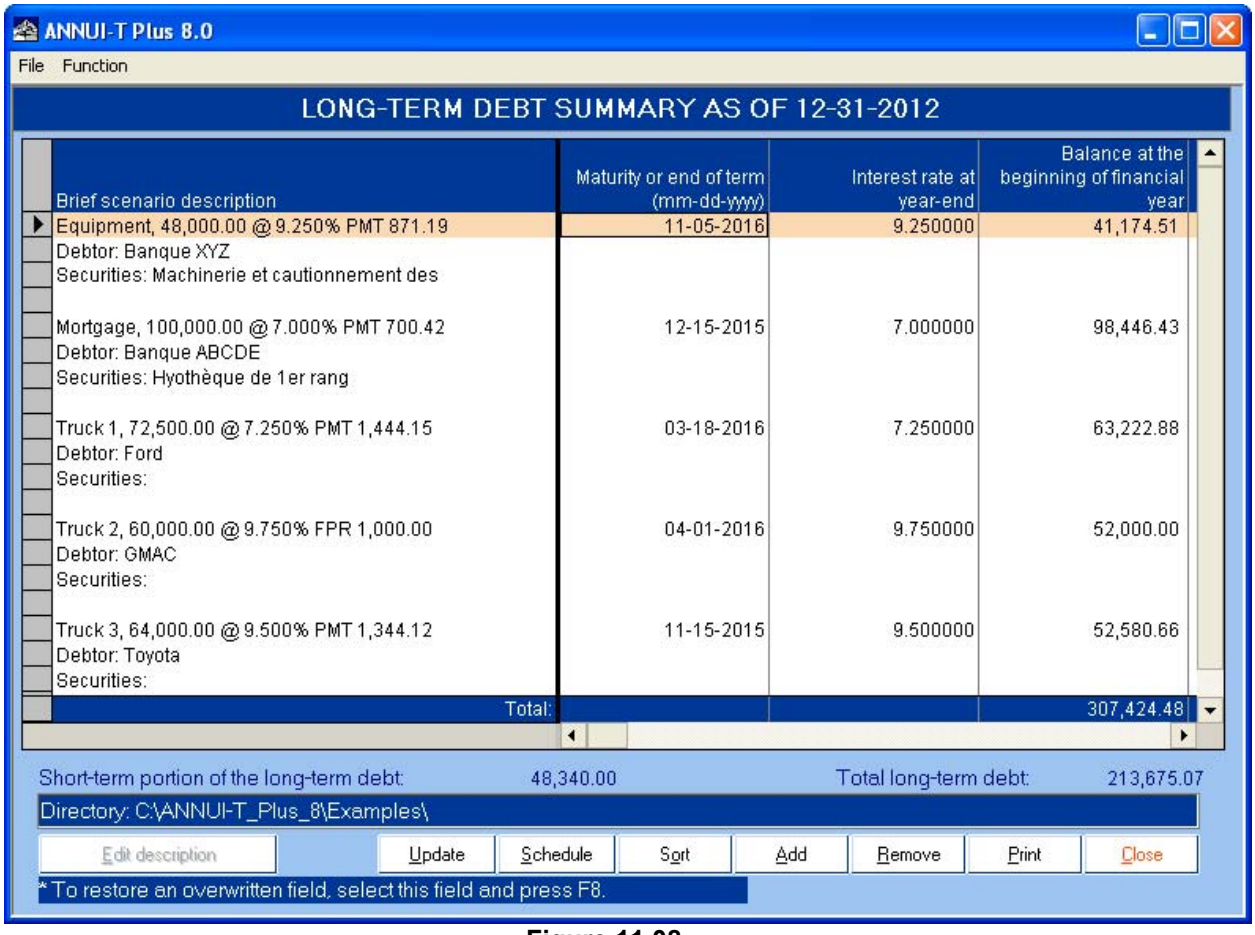



**Figure 11.08**

The next six columns provide a summary of events that have occurred during the financial year about each loan (balance at the beginning, amount of new loan, repayments, interest paid, balance and accrued interest at year-end).

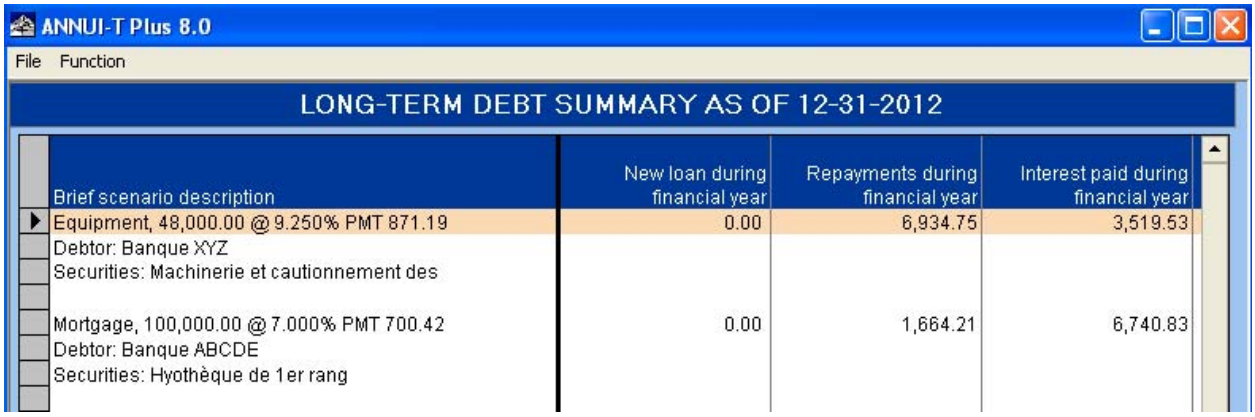



**Figure 11.09**

Repayments of each of the next 5 financial years appear in the 5 following columns. In the last column, the total amount of repayments over these next 5 financial years is displayed.

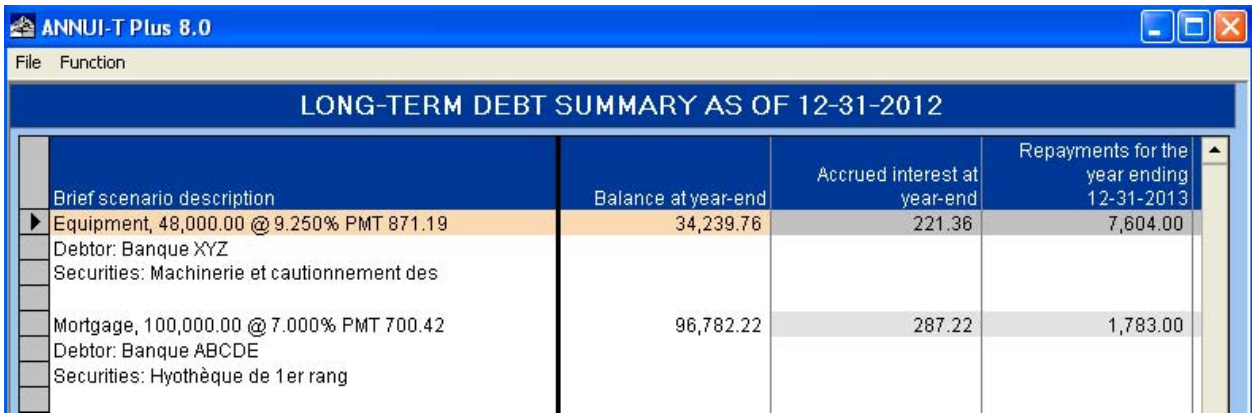



**Figure 11.10**

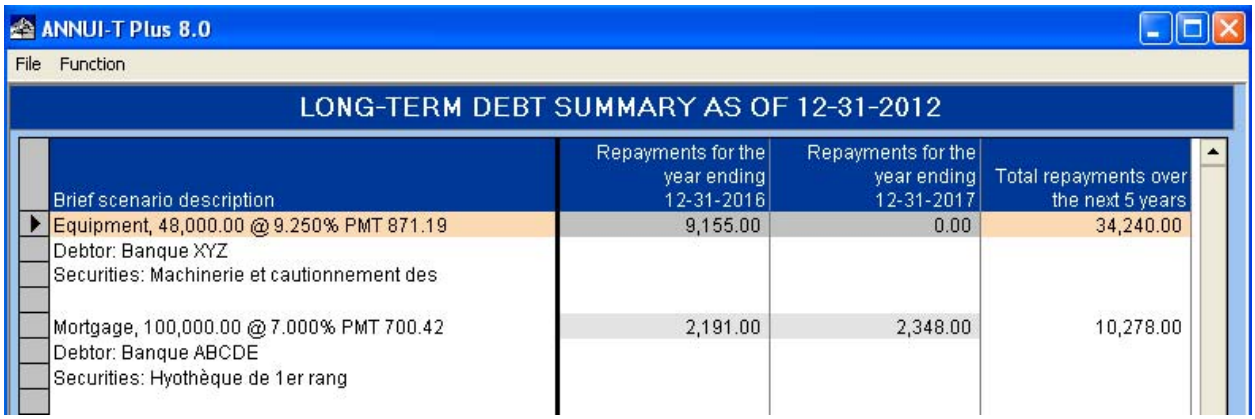



**Figure 11.11**

Finally, let us recall that it is possible to add lines, for example, to include advances from shareholders. To do so, simply click on *"Add"* and enter a brief description of the loan, the debtor and the securities related to the loan. Then, fill out the fields in the columns. Remember that you can also delete an added line by positioning the cursor on this line and by selecting *"Remove"*.

**" LEASE OBLIGATIONS SUMMARY "**

Again, this function provides more information to support the financial statements and the note concerning the lease contracts.

Remember that there is an option to choose whether or not to round the data to the nearest dollar.

For each of the selected scenarios, we obtain, among other things, interest paid during the financial year, balances at the beginning and at the end of the financial year, lease payments for the next 5 financial years, total interest, etc.

In the following illustrations, by reading the column headings, you can see all available information.

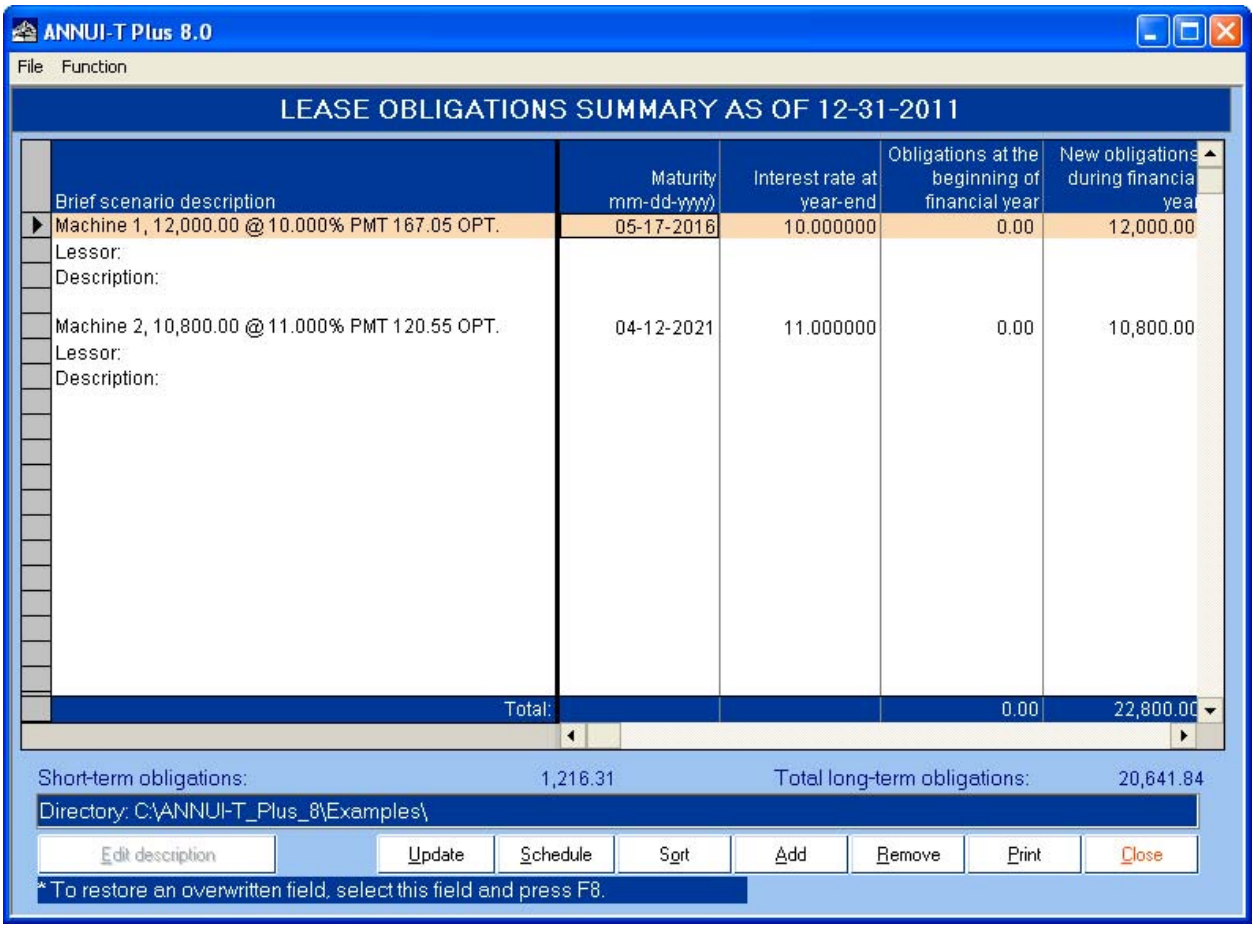



**Figure 11.12**

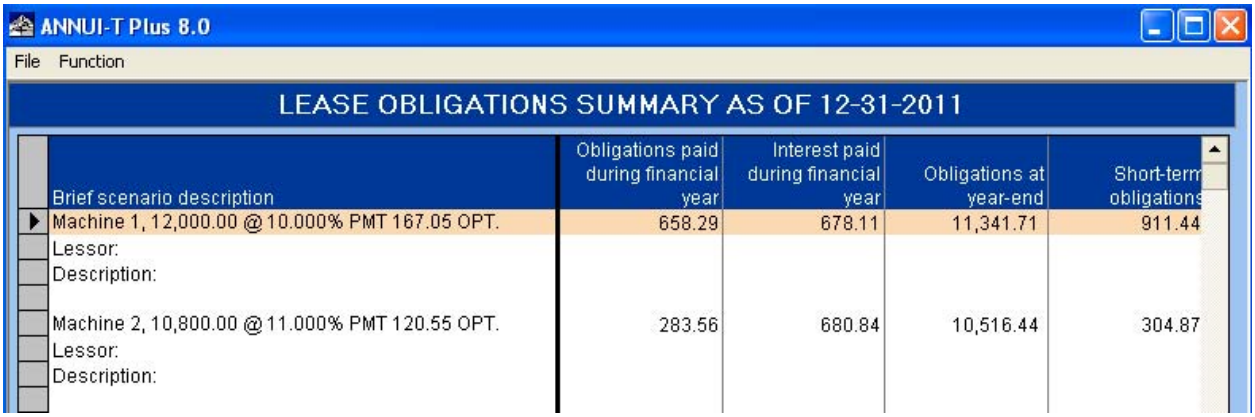



**Figure 11.13**

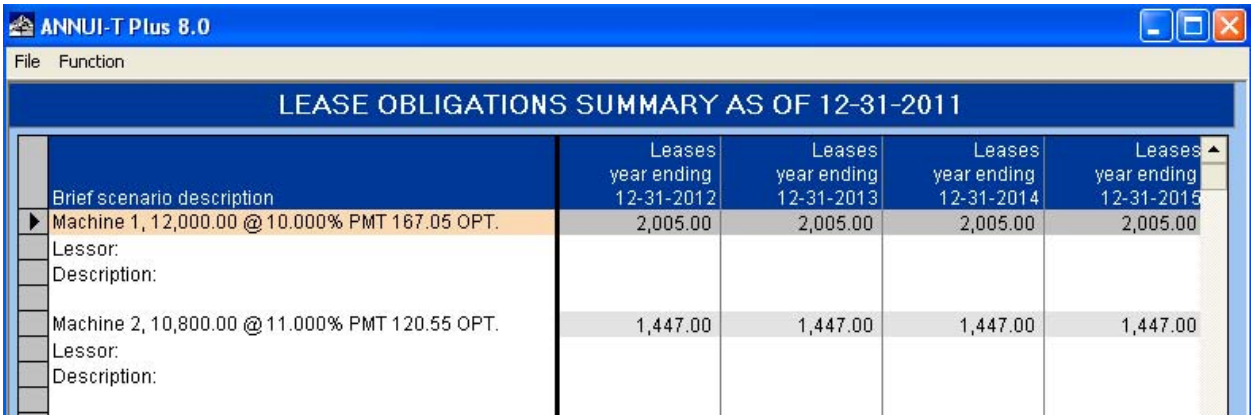



**Figure 11.14**

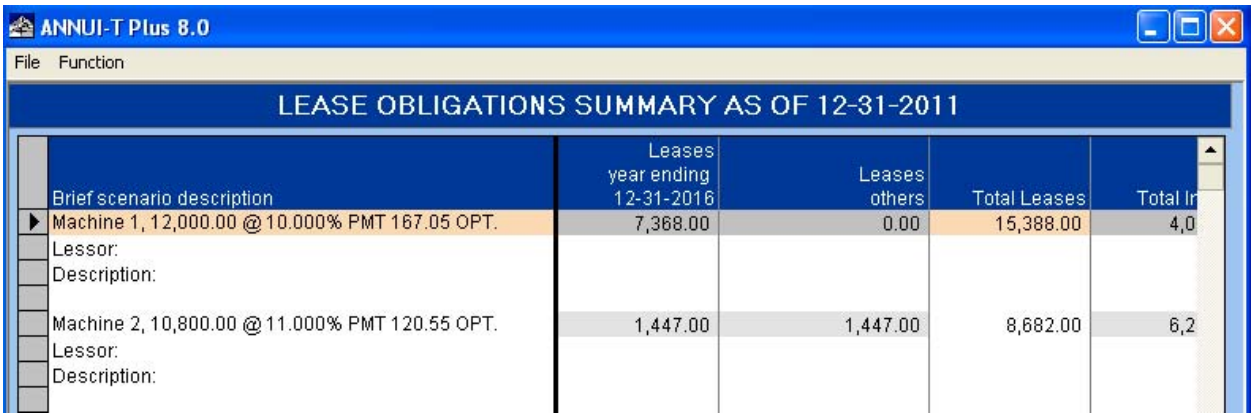



**Figure 11.15**

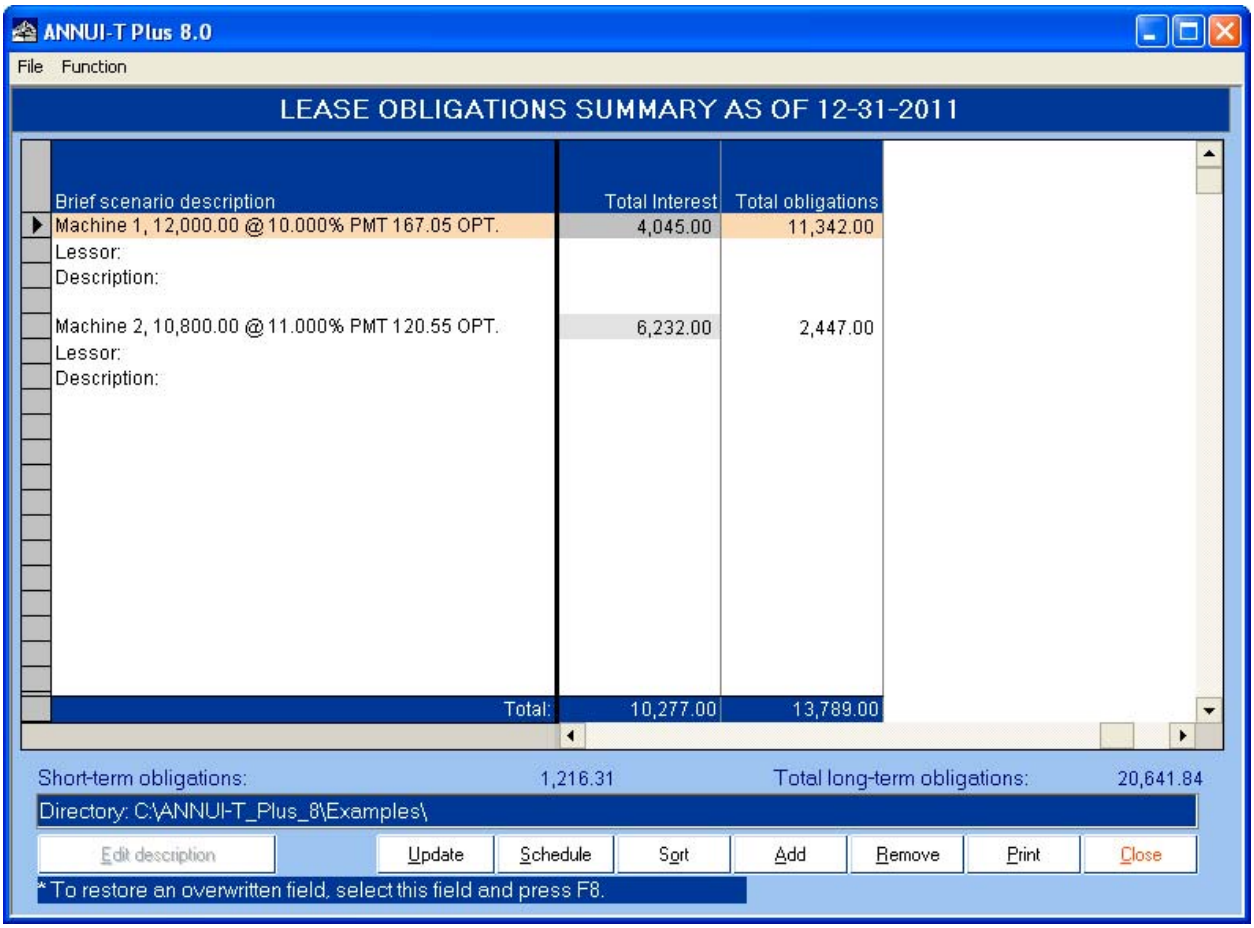

ANNUI-T Plus 8.0
File Function
LEASE OBLIGATIONS SUMMARY AS OF 12-31-2011
Brief scenario description
Total Interest
Total obligations
Machine 1, 12,000.00 @ 10.000% PMT 167.05 OPT.
4,045.00
11,342.00
Lessor:
Description:
Machine 2, 10,800.00 @ 11.000% PMT 120.55 OPT.
6,232.00
2,447.00
Lessor:
Description:
Total:
10,277.00
13,789.00
Short-term obligations:
1,216.31
Total long-term obligations:
20,641.84
Directory: C:\ANNUI-T_Plus_8\Examples\
Edit description
Update
Schedule
Sort
Add
Remove
Print
Close
* To restore an overwritten field, select this field and press F8.

**Figure 11.16**

# 12 TOOLS

## Sales taxes calculation tool

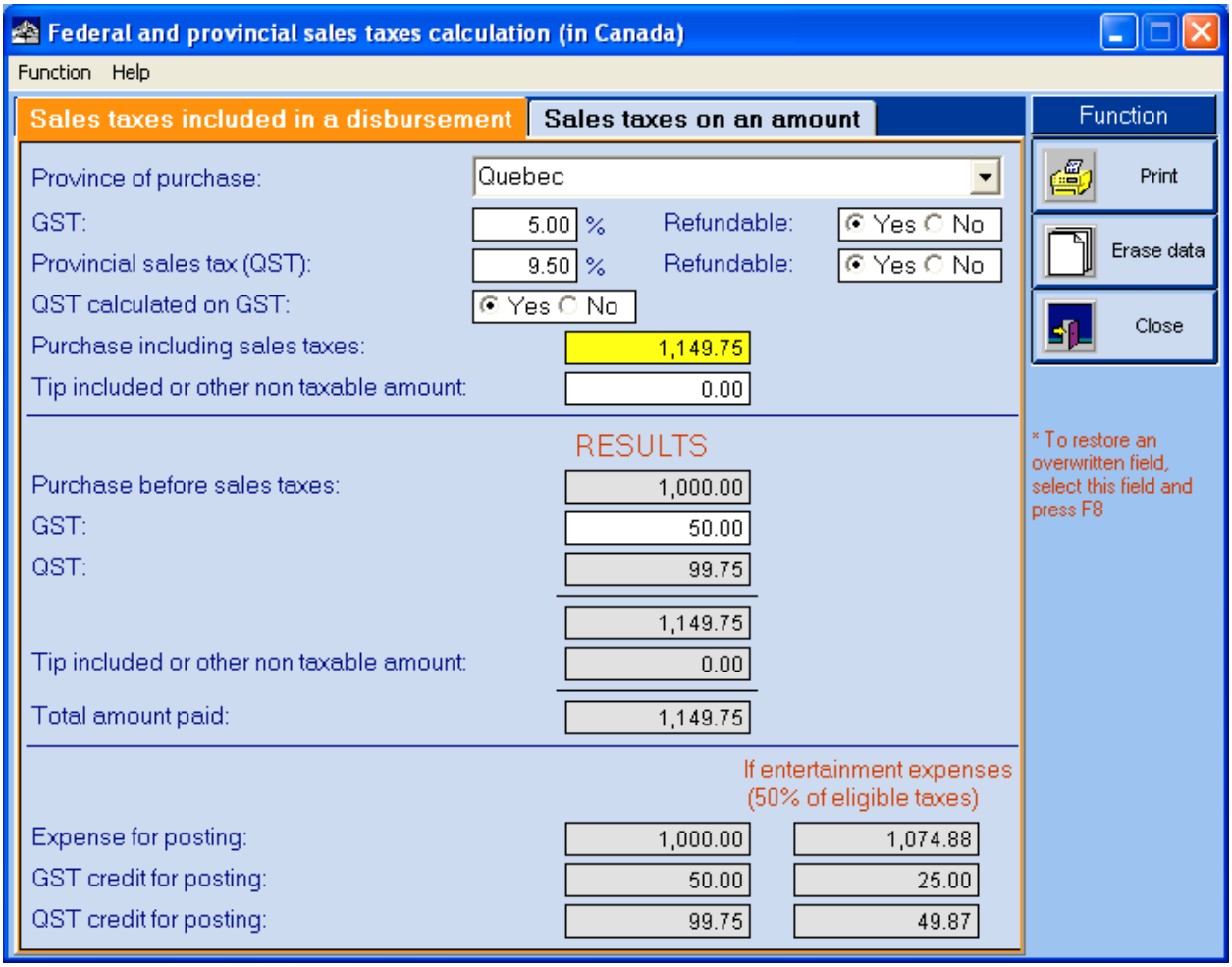

Federal and provincial sales taxes calculation (in Canada)
Function Help
Sales taxes included in a disbursement
Sales taxes on an amount
Province of purchase: Quebec
GST: 5.00 % Refundable: Yes No
Provincial sales tax (QST): 9.50 % Refundable: Yes No
QST calculated on GST: Yes No
Purchase including sales taxes: 1,149.75
Tip included or other non taxable amount: 0.00
RESULTS
Purchase before sales taxes: 1,000.00
GST: 50.00
QST: 99.75
1,149.75
Tip included or other non taxable amount: 0.00
Total amount paid: 1,149.75
If entertainment expenses (50% of eligible taxes)
Expense for posting: 1,000.00 1,074.88
GST credit for posting: 50.00 25.00
QST credit for posting: 99.75 49.87
Function
Print
Erase data
Close
* To restore an overwritten field, select this field and press F8

**Figure 12.01:**
**Example of the sales taxes calculation tool**

ANNUI-T Plus contains a tool to calculate sales taxes for any Canadian province. This window has two tabs since it offers two types of calculation. The first one is used to calculate the sales taxes included in a disbursement. This is useful when you do not have a detailed invoice (restaurant receipt, parking, taxi, etc).

When you select the province, the program displays the GST rate and the provincial sale tax (PST) usually in effect in this province. You are allowed to modify these rates and to specify if a tax is refundable or not for the enterprise. Then, you have to enter the total amount of the disbursement and if applicable, the amount of tip or any other non taxable amount included. ANNUI-T then calculates the amount before taxes and the sales taxes. Note that you can modify the amount before the sales taxes and the amount of GST included.

The program also displays different amounts to register in the GL entries. There is even a section for the fiscal treatment of entertainment expenses. Remember that in the case of entertainment expenses, you can claim only 50% of the refundable sales taxes (the remaining sales taxes are usually added to the expense amount).

The functionality in the second tab is similar to the first screen and is used to calculate sales taxes on an amount (including a portion non taxable if desired). Of course, this tool can be used to make an invoice but there are other situations.

For example, when you buy many items in a store, often on the invoice, some items are for business and other are simply personal expenses. With the ANNUI-T program, you just have to enter the total admissible amount before sales taxes. Then, the program displays the transaction detail (amount before sales taxes, GST, PST and the total amount). ANNUI-T also displays the amounts for the GL entries.

## Cash Disbursements Journal

This tool is like a cash disbursements journal. Amounts are distributed in columns, many of which are defined by the user. This is ideal to compile expense accounts, credit card statements, etc.

For example, let us take the case of expense accounts. As we know, in order to save time, instead of recording GL entries for every disbursement made, it is preferable to compile all the disbursements and then register GL entries only for the totals.

In these circumstances, many people use a spreadsheet program (for example, Excel). However, ANNUI-T Plus provides a much more flexible tool, which requires no programming knowledge and is better adapted for this kind of task.

It is possible to save these compilations and to edit them if needed. Once you have set up a model, it becomes easy to use it in the future for a new compilation.

In the "Setup" tab, first, you must indicate the default province for any new disbursement. When you select the province, the program displays the GST rate and, if applicable, the provincial sale tax (PST) usually in effect in this province.

However, you are allowed to modify these rates and to specify if a tax is refundable or not for the enterprise. It is also in this screen that you can enter the name and the GL account number of each of the columns you wish to use.

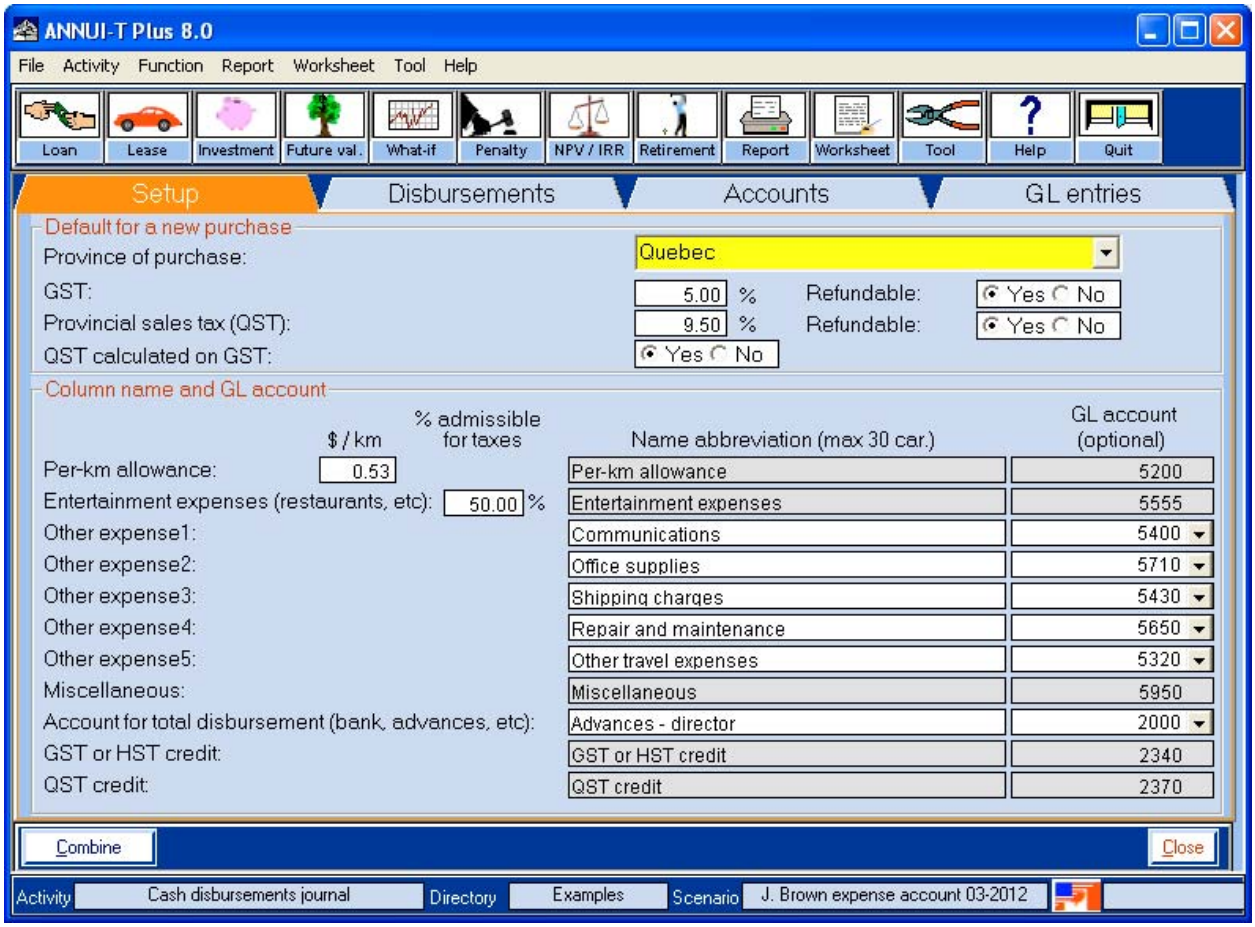

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Default for a new purchase
Province of purchase: Quebec
GST: 5.00 % Refundable: Yes No
Provincial sales tax (QST): 9.50 % Refundable: Yes No
QST calculated on GST: Yes No
Column name and GL account
$ / km
% admissible for taxes
Name abbreviation (max 30 car.)
GL account (optional)
Per-km allowance: 0.53 Per-km allowance 5200
Entertainment expenses (restaurants, etc): 50.00 % Entertainment expenses 5555
Other expense1: Communications 5400
Other expense2: Office supplies 5710
Other expense3: Shipping charges 5430
Other expense4: Repair and maintenance 5650
Other expense5: Other travel expenses 5320
Miscellaneous: Miscellaneous 5950
Account for total disbursement (bank, advances, etc): Advances - director 2000
GST or HST credit: GST or HST credit 2340
QST credit: QST credit 2370
Combine
Close
Activity Cash disbursements journal Directory Examples Scenario J. Brown expense account 03-2012

**Figure 12.02:**
**Example of the "Setup" tab of the Cash Disbursements Journal**

The "Disbursements" section of ANNUI-T Plus looks like a spreadsheet. There is many separate columns, some of which can be configured by the user in the "Setup" tab.

First, you have to enter the disbursement date, a brief description and the amount paid (including sales taxes).

It is possible to search for a specified string in the description column. After entering the search string, you must click on the magnifying glass. To find the next line that contains this string, simply click again on the magnifying glass.

In addition, when you click on "A-- >Z", the lines can be sorted according to the disbursements dates, amounts or to the alphabetical order of the descriptions (which can provide disbursements classified by suppliers if you always enter the supplier's name at the beginning of the description).

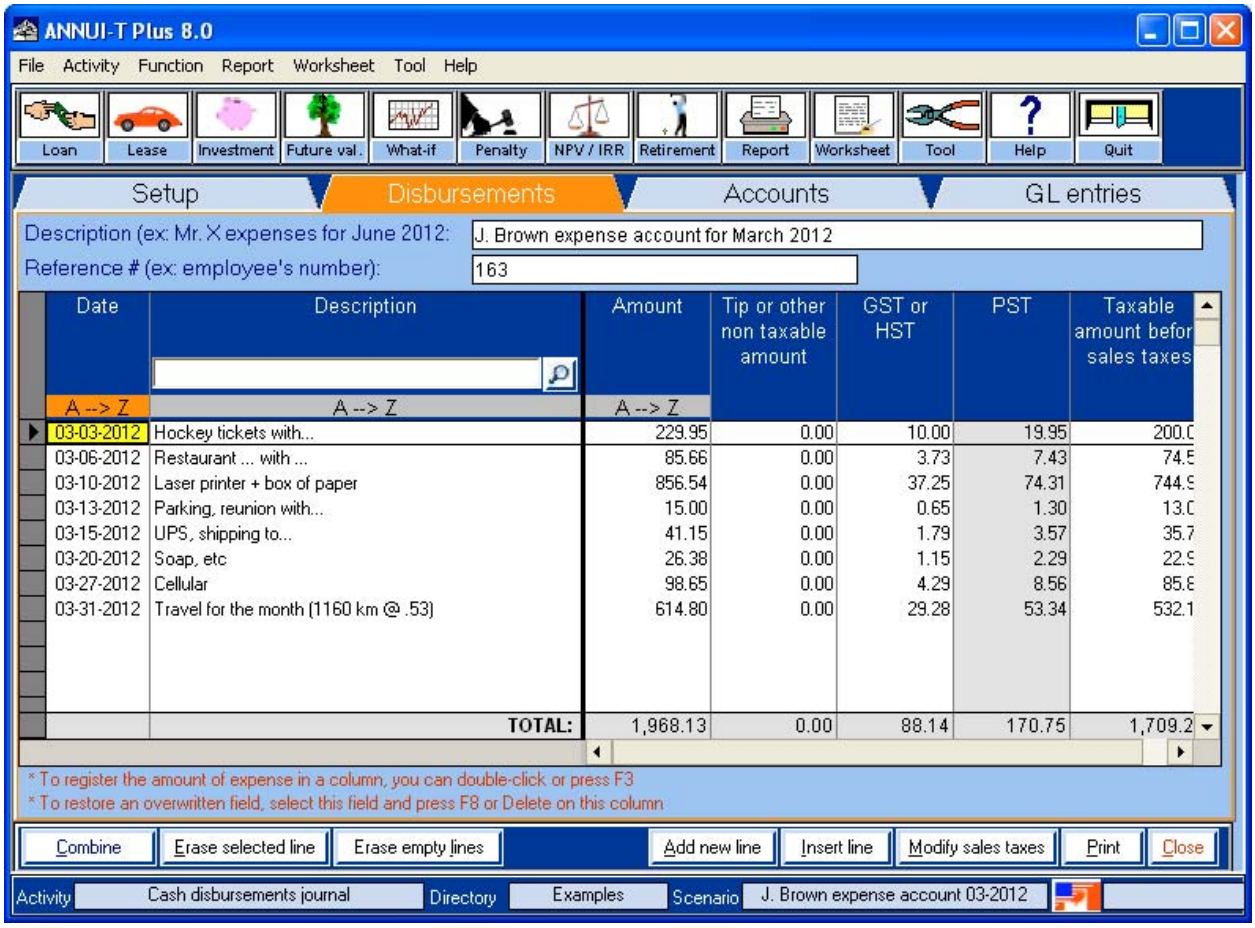

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Description (ex: Mr. X expenses for June 2012: J. Brown expense account for March 2012
Reference # (ex: employee's number): 163
Date Description Amount Tip or other non taxable amount GST or HST PST Taxable amount befor sales taxes
A --> Z A --> Z A --> Z
03-03-2012 Hockey tickets with... 229.95 0.00 10.00 19.95 200.0
03-06-2012 Restaurant ... with ... 85.66 0.00 3.73 7.43 74.5
03-10-2012 Laser printer + box of paper 856.54 0.00 37.25 74.31 744.9
03-13-2012 Parking, reunion with... 15.00 0.00 0.65 1.30 13.0
03-15-2012 UPS, shipping to... 41.15 0.00 1.79 3.57 35.7
03-20-2012 Soap, etc 26.38 0.00 1.15 2.29 22.9
03-27-2012 Cellular 98.65 0.00 4.29 8.56 85.6
03-31-2012 Travel for the month (1160 km @ .53) 614.80 0.00 29.28 53.34 532.1
TOTAL: 1,968.13 0.00 88.14 170.75 1,709.2
* To register the amount of expense in a column, you can double-click or press F3
* To restore an overwritten field, select this field and press F8 or Delete on this column
Combine Erase selected line Erase empty lines Add new line Insert line Modify sales taxes Print Close
Activity Cash disbursements journal Directory Examples Scenario J. Brown expense account 03-2012

**Figure 12.03:**
**"Disbursements" tab of the Cash Disbursements Journal**

The followings illustrate examples of other columns in the Cash Disbursements Journal:

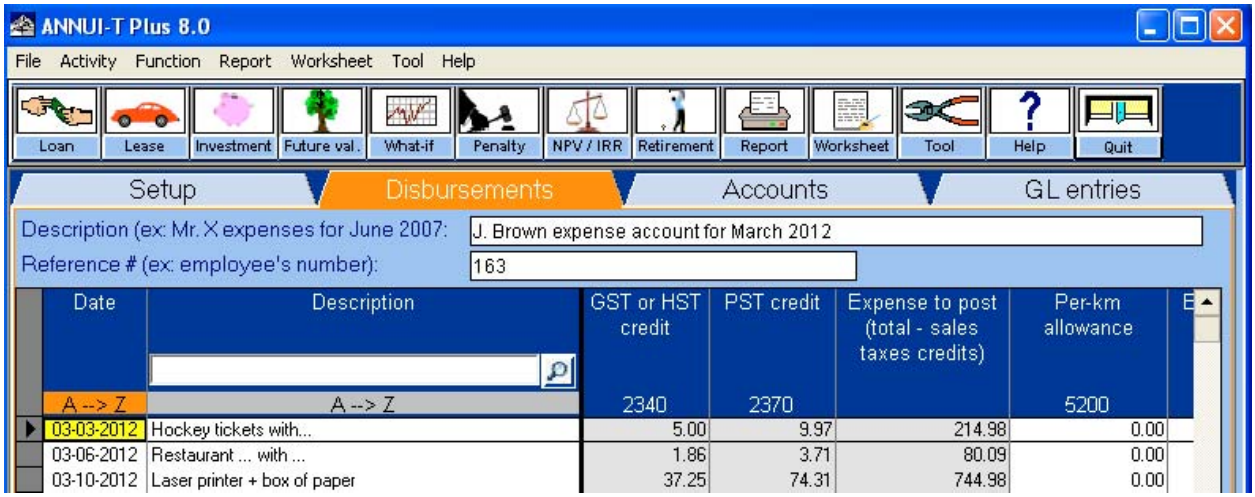

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Description (ex: Mr. X expenses for June 2007: J. Brown expense account for March 2012
Reference # (ex: employee's number): 163
Date Description GST or HST credit PST credit Expense to post (total - sales taxes credits) Per-km allowance
A --> Z A --> Z 2340 2370 5200
03-03-2012 Hockey tickets with... 5.00 9.97 214.98 0.00
03-06-2012 Restaurant ... with ... 1.86 3.71 80.09 0.00
03-10-2012 Laser printer + box of paper 37.25 74.31 744.98 0.00

**Figure 12.04**

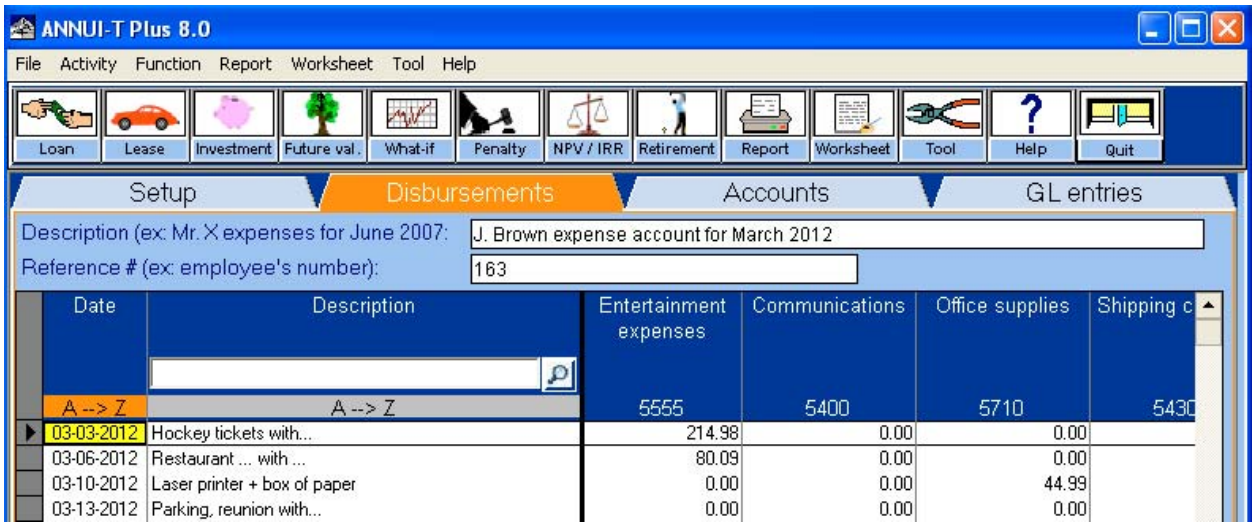

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Description (ex: Mr. X expenses for June 2007: J. Brown expense account for March 2012
Reference # (ex: employee's number): 163
Date Description Entertainment expenses Communications Office supplies Shipping c
A --> Z A --> Z 5555 5400 5710 5430
03-03-2012 Hockey tickets with... 214.98 0.00 0.00
03-06-2012 Restaurant ... with ... 80.09 0.00 0.00
03-10-2012 Laser printer + box of paper 0.00 0.00 44.99
03-13-2012 Parking, reunion with... 0.00 0.00 0.00

**Figure 12.05**

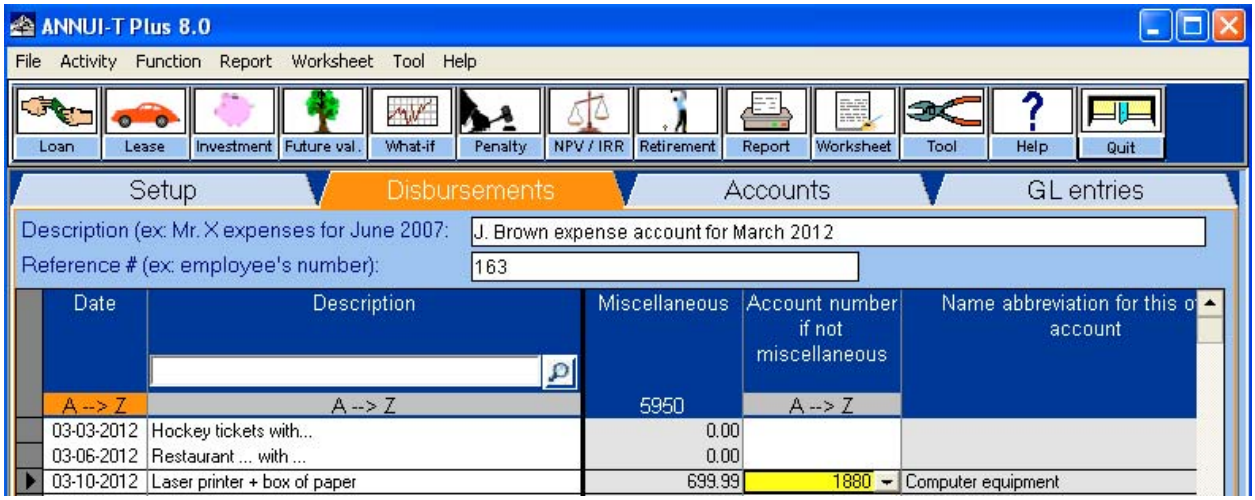

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Description (ex: Mr. X expenses for June 2007: J. Brown expense account for March 2012
Reference # (ex: employee's number): 163
Date Description Miscellaneous Account number if not miscellaneous Name abbreviation for this account
A --> Z A --> Z 5950 A --> Z
03-03-2012 Hockey tickets with... 0.00
03-06-2012 Restaurant ... with ... 0.00
03-10-2012 Laser printer + box of paper 699.99 1880 Computer equipment

**Figure 12.06**

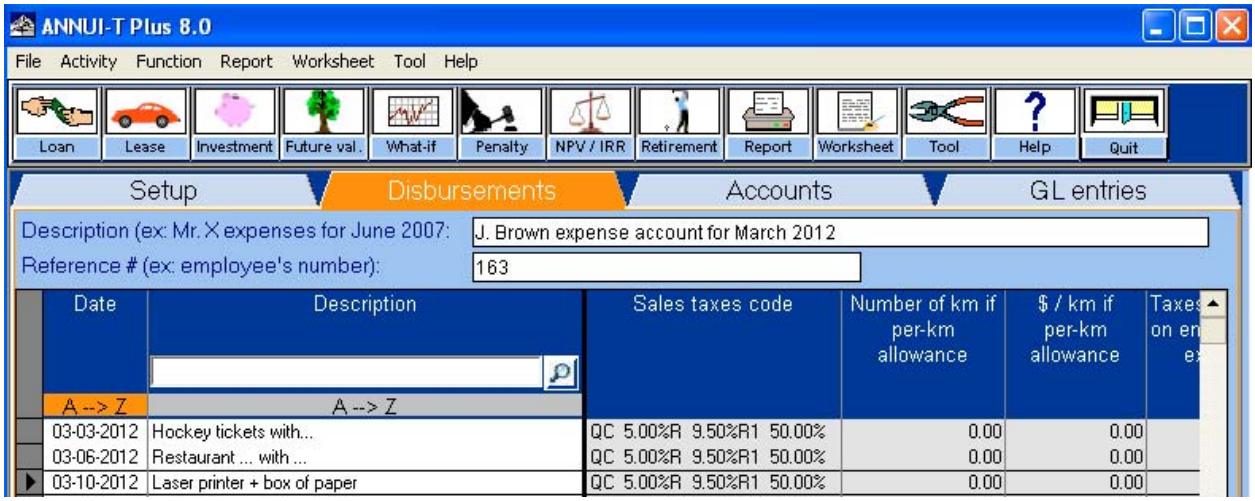

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Description (ex: Mr. X expenses for June 2007: J. Brown expense account for March 2012
Reference # (ex: employee's number): 163
Date Description Sales taxes code Number of km if per-km allowance $ / km if per-km allowance Taxes on en
A --> Z A --> Z
03-03-2012 Hockey tickets with... QC 5.00%R 9.50%R1 50.00% 0.00 0.00
03-06-2012 Restaurant ... with ... QC 5.00%R 9.50%R1 50.00% 0.00 0.00
03-10-2012 Laser printer + box of paper QC 5.00%R 9.50%R1 50.00% 0.00 0.00

**Figure 12.07**

When you enter an amount (including sales taxes), ANNUI-T calculates the sales taxes included and the refundable sales taxes (also known as sales taxes credits or ITC or ITR). You can modify the amount before sales taxes and the GST amount.

Then, you must indicate in which column you want to register the amount (for example, office supplies). To register the total amount (before sales taxes credits) in a single column, you must position the cursor on the desired cell and press F3 or double-click on it.

When you want to register an amount as an entertainment expense, you have to select this column (which is a predefined column). Then, the program automatically calculates 50% of the refundable sales taxes. However, you can modify the admissible portion of sales taxes that is refundable on entertainment expenses.

Of course, you are allowed to use more than one column for a disbursement since it is frequent to have an invoice containing several amounts to register in different GL accounts.

Note that there is always a "Miscellaneous" column. Moreover, when there is an amount in the "Miscellaneous" column, you can click in the next column to select a GL account that is not already used for a column (see figure 12.06).

In these circumstances, in the last part of the screen, the program automatically displays additional columns to reclassify, by GL account, all the amounts of the "Miscellaneous" column.

For this reason, in the "Accounts" tab, it is important to enter all the GL accounts that you might use in your Cash Disbursements Journal.

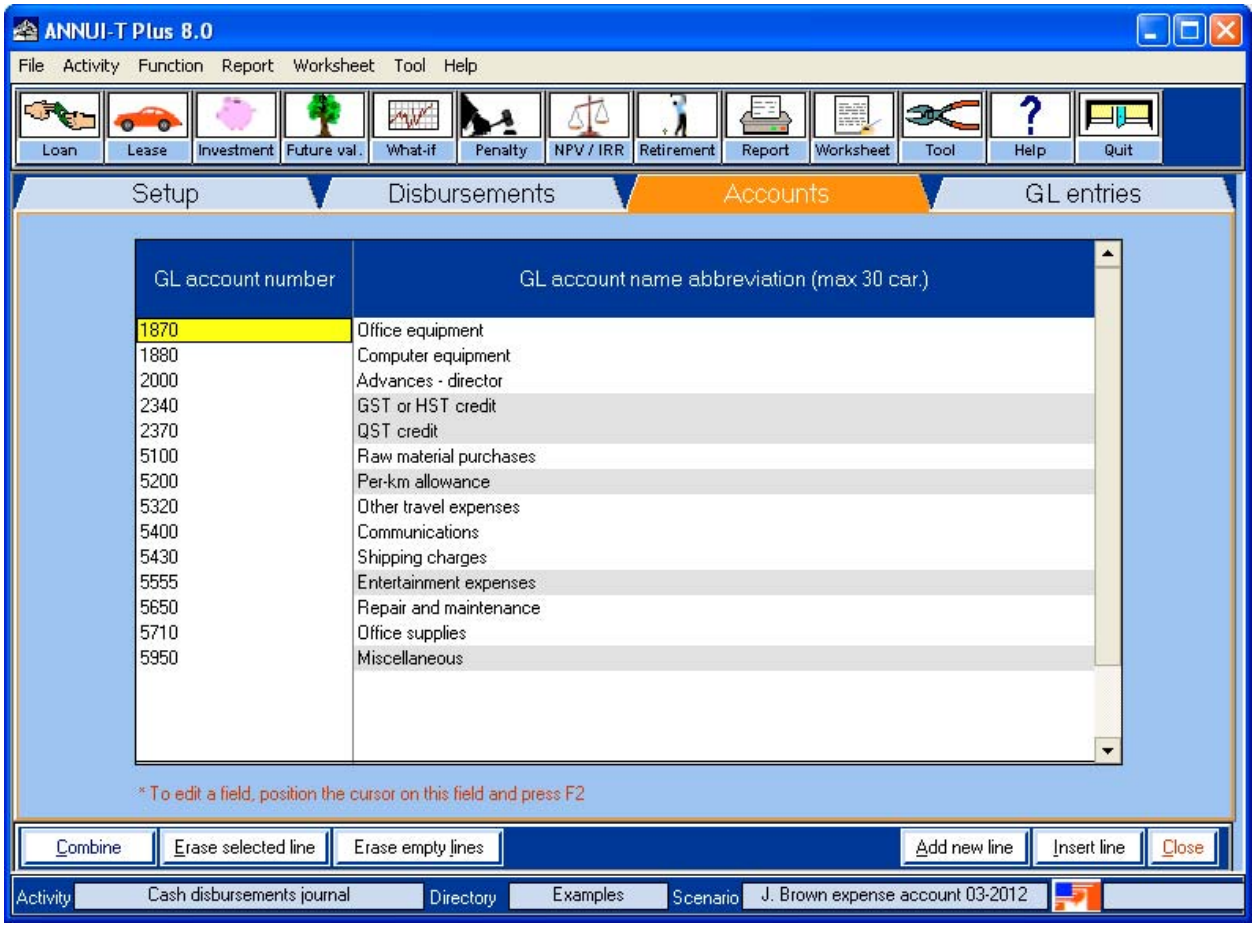



**Figure 12.08 :**
**"Accounts" tab of the Cash Disbursements Journal**

In the case of a "per kilometer allowance", the procedure is slightly different. First of all, in the "Setup" tab, you must enter the amount paid per kilometer. Then, in the grid, you must position the cursor on the "per-km allowance" column and press F3 or double-click on it. A screen is displayed to enter the total kilometers. When you leave this window, the program calculates the allowance amount and the sales taxes credits.

As it should be, sales taxes credits are calculated in the following way:

$$\text{GST credit} = \text{allowance} \times \frac{\text{GST rate}}{(100 + \text{GST rate})}$$

$$\text{QST credit} = \text{allowance} \times \frac{\text{QST rate}}{(100 + \text{QST rate})}$$

The "Disbursements" grid is very flexible. You can add, insert or delete lines. When you quit this grid, the program sorts lines based on the dates.

Furthermore, you are always allowed to modify the taxes code (province and sales taxes calculation rules) of any disbursement. To do so, you simply have to position the cursor on the desired line and click on "Modify sales taxes" button or double-click on the sales taxes code in the column that displays this information. The sales taxes code structure is like the following:

Province abbreviation, GST rate, R if refundable (if not, N), provincial sale tax rate, R if refundable (if not, N), 1 if the provincial tax is calculated on the GST (if not, 0), portion of deductible entertainment expenses.

For example, by default, in 2012, for a disbursement in Quebec, the code is:

QC 5%R 9.5%R1 50%

Finally, there is also a tab to display the GL entries. It is even possible to create a file containing the GL entries that can be imported into many accounting software such as Accpac, Acomba, Avantage, MYOB, QuickBooks, Simply Accounting, etc.

To create the export file, you have to click on *“Export”*. Then, in the next window displayed, you must indicate your accounting software, the name of the export file and the folder you wish to save the file in.

Note that it is possible to click more than once on the *"Export"* button. If this file name already exists in the folder, the number following the name is increased (the most recent file having the highest number). For example, this situation happens when the user clicks on *"Export"* and then realizes that he made a mistake or forgot a disbursement.

Once the export is done, the journal entries are ready to be imported into the accounting software. This procedure differs from accounting programs. You can refer to your user manual or call your software support if you do not know how to import GL entries. This is usually not too complex.

Because it is normal to make errors, ANNUI-T Plus even allows you to reverse the journal entries. Therefore, if you ever import GL entries of this type into your accounting software and some of them contain errors, the best way to correct the situation is often to reverse all of them. Then, you can make the necessary corrections and create a new export file.

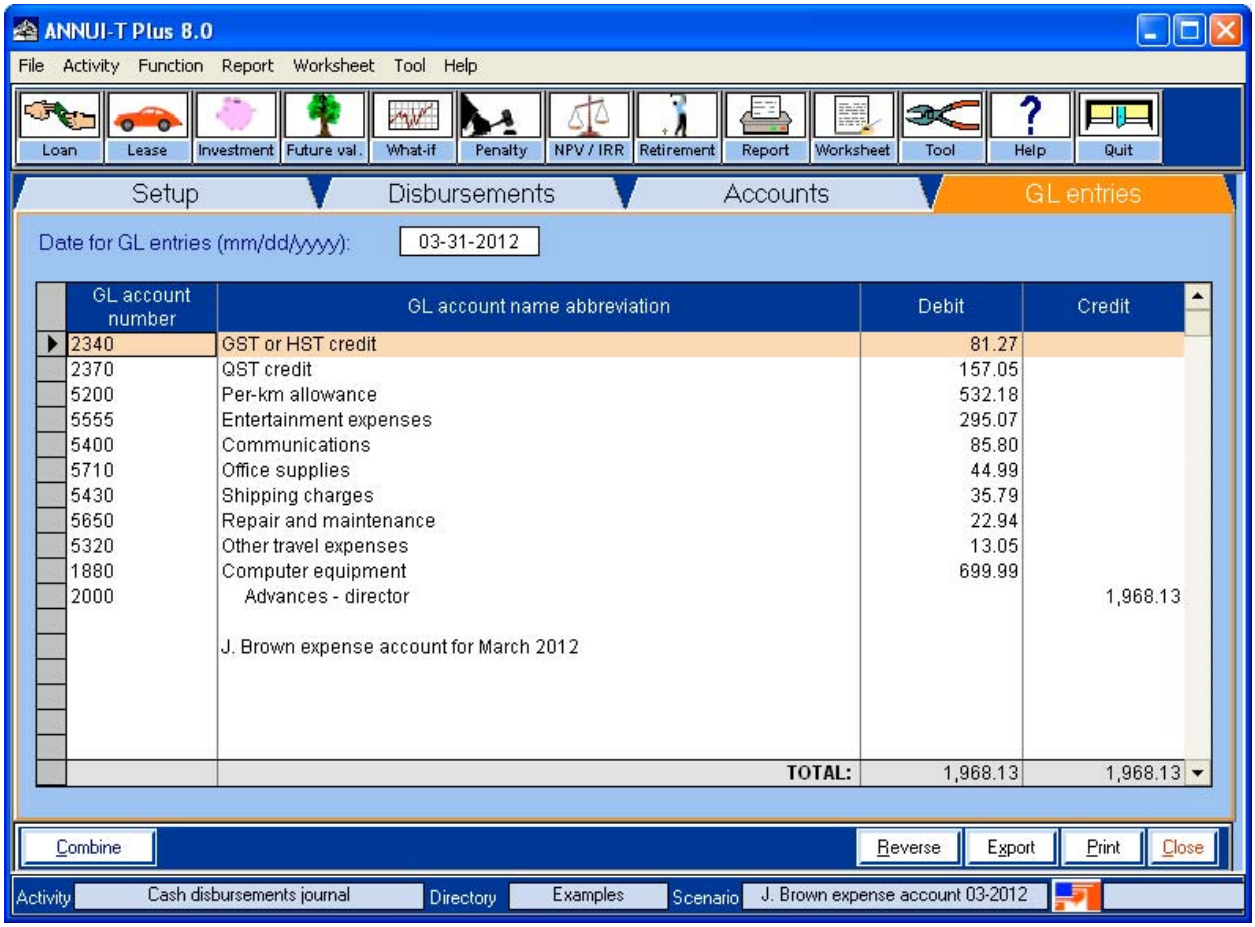

ANNUI-T Plus 8.0
File Activity Function Report Worksheet Tool Help
Loan Lease Investment Future val. What-if Penalty NPV / IRR Retirement Report Worksheet Tool Help Quit
Setup Disbursements Accounts GL entries
Date for GL entries (mm/dd/yyyy): 03-31-2012
GL account number | GL account name abbreviation | Debit | Credit
2340 GST or HST credit 81.27
2370 QST credit 157.05
5200 Per-km allowance 532.18
5555 Entertainment expenses 295.07
5400 Communications 85.80
5710 Office supplies 44.99
5430 Shipping charges 35.79
5650 Repair and maintenance 22.94
5320 Other travel expenses 13.05
1880 Computer equipment 699.99
2000 Advances - director 1,968.13
J. Brown expense account for March 2012
TOTAL: 1,968.13 1,968.13
Combine
Reverse Export Print Close
Activity Cash disbursements journal
Directory Examples
Scenario J. Brown expense account 03-2012

**Figure 12.09:**
**"GL Entries" tab of the Cash Disbursements Journal**

When printing a compilation of disbursements, instead of printing all lines, you can choose to print a zone or even selected lines (by clicking on the lines of the column preceding the one for dates using CTLR or SHIFT). In this case, printed totals are recalculated to reflect the amounts of selected lines. You can also choose to print only the column headings and totals.

In addition, there is an option to print or not the columns used to reclassify the amounts of the "Miscellaneous" column (as long as you have selected GL accounts to indicate the nature of the expenses). For example, if in the "Miscellaneous" column, there are equipment purchases, on the printout, there will be a column (ex: "Equipment") to list all these transactions.

**In this module, you can even combine (consolidate) compilations of disbursements**. To do so, you must first open the compilation that will serve as the model (based on column headings and GL account numbers). Then, you have to click on the "Combine" button. Then a screen is displayed to select the files. As usual, the selection is done by using the CTRL or SHIFT key. Finally, another screen appears to enter the interval for the grouping (start date and end date). For example, if you have 12 monthly compilations that have been saved in 12 separate files, you can combine them into one file. You can then add or edit transactions and save this file.

Note that the software automatically manage columns if the compilations to combine do not have the same columns structure. The consolidation is performed according to the model chosen (the active file when you click on the "Combine" button). If a column in the model does not include a GL account number, grouping for this column will be based on the column title. If an amount was in a column but this column does not exist in the compilation model, this amount will be displayed in the miscellaneous column. However, if the original column had a GL account number, there will still be an assignment of this account because it will be selected in the column following the "Miscellaneous" column.

**In the main screen of the software, when you click on “Report” and then “Disbursements”, there is a function that allows you to create a report in which you can also combine compilations of disbursements. In this report, the software sorts all elements by column.**

Consider the following case: We have two files in which the disbursements were registered into 5 columns in both cases. However, the columns are completely different in the two files. Using this report to combine the two files, there would be 10 different columns. If a column were present in both files, the program would automatically combine these elements into a single column.

Finally, in this report by clicking on the funnel image located at the top of a column, only the disbursements that were classified in this column are displayed. This way, you get the detail of all assignments related to this GL account. To return to normal, simply click again on the funnel image.

## 13 JOURNAL ENTRIES

First, this function allows you to import into many accounting programs (Accpac, Acomba, Avantage, MYOB, QuickBooks, Simply Accounting, etc) GL entries made from the Cash Disbursements Journal of ANNUI-T Plus. In the "GL entries" tab of the Cash Disbursements Journal, you simply have to click on *"Export"*. Then, in the next window displayed, you must indicate your accounting software, the name of the export file and the folder you wish to save the file in.

Note that it is possible to click more than once on the *"Export"* button. If this file name already exists in the folder, the number following the name is increased (the most recent file having the highest number). For example, this situation happens when the user clicks on *"Export"* and then realizes that he made a mistake or forgot a disbursement.

Once the export is done, the journal entries are ready to be imported into the accounting software. This procedure differs from accounting programs. You can refer to your user manual or call your software support if you do not know how to import GL entries.This is usually not too complex.

**This module is also used by those who must regularly make many journal entries for loans, leases or investment annuities (lenders, enterprises offering financing of their products or capital lease contracts, etc). However, the procedure is slightly different.**

In the case of capital leases, it is important to note that the program does not make the initial journal entry, the one to register the sale of the asset from the lessor point of view or the acquisition of the leased asset from the lessee point of view.

Furthermore, for lease contracts, the software does not generate journal entries for an additional amount (new advance) or if the contract ends before the maturity date (closure case). You must understand that these kind of events affect other accounts (ex : gains or losses on asset disposals) or represent irregular situations that make it necessary to record manually journal entries.

Of course, in order to be able to make journal entries for a scenario, the software needs to know which general ledger (GL) accounts must be used for the cash-flow variation, interest, principal, etc. The user must also indicate the type of journal entries. For example, in the case of a loan, you have to select between Borrower or Lender. It is important to note that this information must be entered when you save the file.

For lease scenarios, the user must also indicate the nature of the contract, capital lease or operating lease. Note that ANNUI-T Plus includes a function to help you establish the nature of a lease contract based on the criteria in chapter 3065 of the CICA Handbook. For more information, please refer to Lease contract classification in the "Worksheets" section.

Since it often happens that the same accounts are used for several scenarios (for example, the bank account), ANNUI-T Plus permits you to create a chart of accounts.

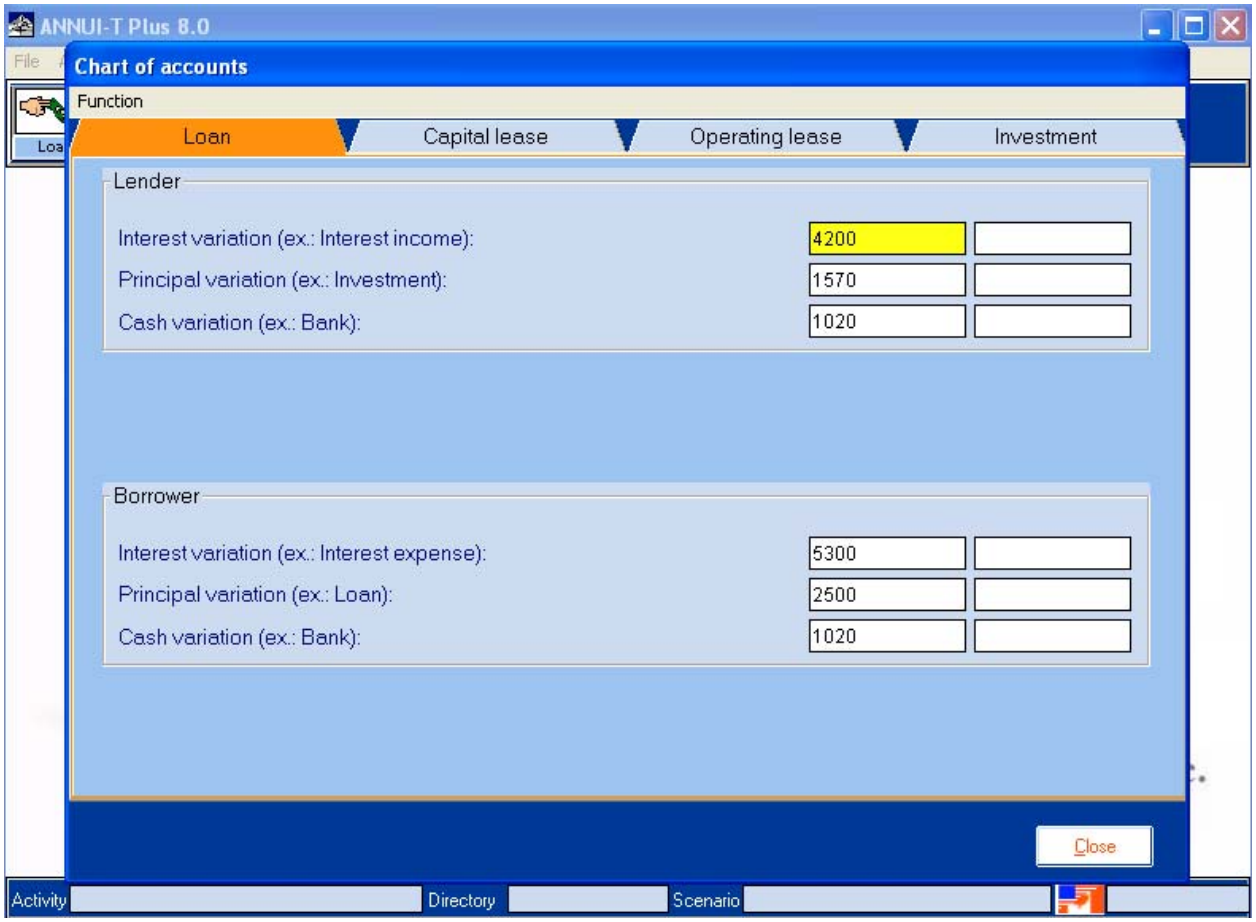



**Figure 13.02:**
**Example of a chart of accounts**

Let us take the case of a lender who has only one bank account and has 300 loans in effect. This lender does not have to enter the bank GL account number in each of 300 scenarios. Because it is always the same account number that is used for every loan, the lender can leave this cell blank when saving a file. Therefore, in this case, to generate journal entries for a scenario, the program use the account number included in the chart of accounts since there is no account number for this item in the scenario.

In other words, the chart of accounts contains the GL account numbers to be used by default. For this reason, when a user is saving this kind of file, he only has to enter the GL account number for accounts that differ from the global chart.

For example, in the case of loans, from the lender's point of view, most of the time, the only GL account to register in the scenario is the receivable (ex : mortgage to receive from XYZ) because GL accounts for the bank and for the interest income remain the same for every loan.

Since a user could do bookkeeping for several enterprises, ANNUI-T Plus allows you to create charts of accounts that can be saved. This is why, before you can generate journal entries, you must first activate a chart of accounts. To do so, from the "GL Entries" menu in the main window, you must select "Chart of accounts" and then "Load". It is also from this menu that you can create a new chart, unload, modify or delete one.

Once you have saved the required GL accounts for all scenarios and selected a chart of accounts, the procedure to generate journal entries is quite simple.

From the *"GL Entries"* menu, you must select *"Export"*. In the file selection window, you have to choose the tab representing the type of scenario (loan, lease or investment). Note that for a batch of journal entries, all scenarios must be of the same type. For example, a batch could not contain loan entries and lease entries. In these circumstances, you must create 2 batches.

The next step is to select the files for the journal entries. To make the selection, keep and hold the CTRL key and click on each of the desired scenarios. Remember that if the scenarios are consecutive in the list, you can save time proceeding by range. You simply have to click on the first scenario to be considered, hold down the SHIFT key and click on the last scenario of the group.

If you want to select files from different folders, once the selection is done for the **first** directory, you must click on *"Create list"*. Then, for each of the desired folders, you have to select the scenarios and click on *"Add"*. To look at the list of selected scenarios, simply click on *"View list"*. Note that it is always possible to remove scenarios from this list.

In addition, the user may also select all scenarios in a directory by clicking on *"Directories"* and *"Add"*.

Once the selection is done, click on *"Continue"*. Then, a new window appears. First, you must enter the beginning date and the ending date. In fact, for each of the chosen scenarios, all transactions in this interval of time will generate journal entries.

Secondly, for the file format, the user has to specify the accounting software. Finally, you have to enter a name for the exportation file and click on *"Continue"*.

**Note that as opposed to GL entries made from the Cash Disbursement Journal, in this situation, the export file is always saved in the "Export" folder under the ANNUI-T Plus directory (by default, c:\ ANNUI-T Plus 8\Export)**.

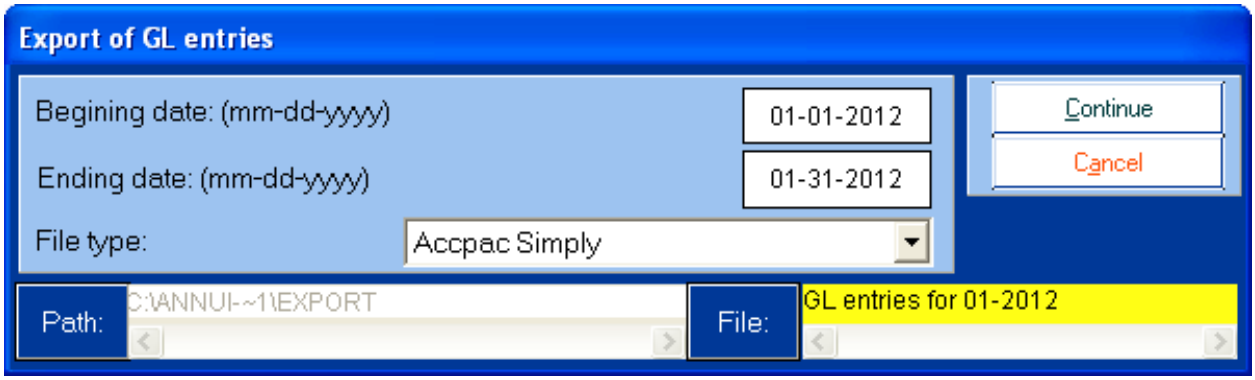



**Figure 13.02**

When journal entries are displayed, at the beginning of each entry, you will notice a box containing an “X“. This indicates that the journal entry is selected for the export file. If you wish to exclude an entry, simply double-click on the box to remove the “X“.

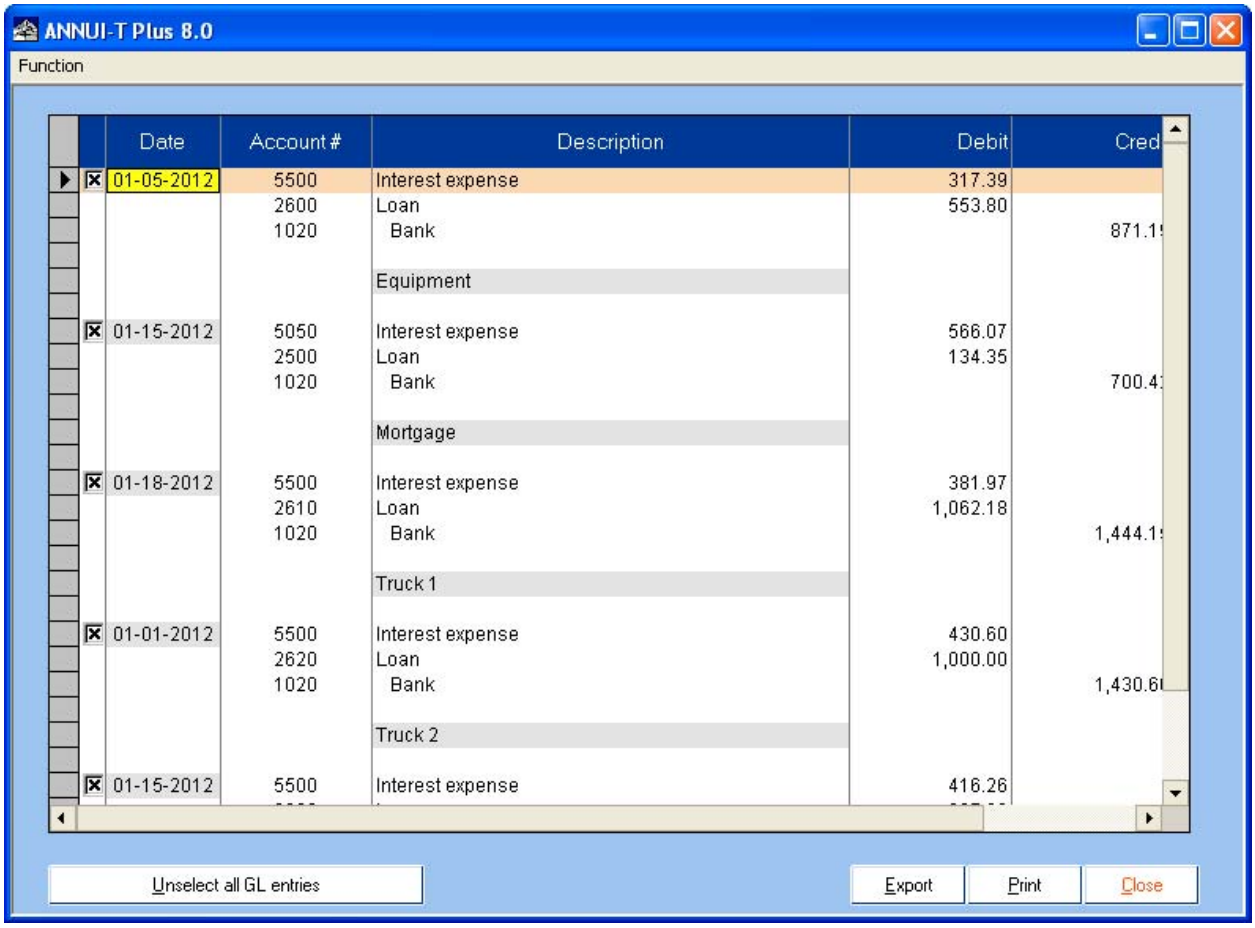



**Figure 13.03:**
**Example of GL entries generated by ANNUI-T Plus**

Because dates in the ANNUI-T schedule are theoretical, the program allows you to modify an entry date. For example, if a payment in the schedule occurs on Sunday, the user could change this journal entry date to enter the date of the next working day. This kind of modification is sometimes necessary when there is an impact in the financial statements.

As for the description of a journal entry, ANNUI-T Plus always enters the name of the scenario to give the user a reference. However, the user is allowed to modify this description.

To create the export file, you simply have to click on *"Export"*. Depending on the chosen accounting software, another window is sometimes displayed to enter supplementary information for the export procedure (ex : fiscal period, currency code, etc).

If you click more than once on *"Export"*, the program saves a new file with the same name but the number following the name is increased (the most recent file having the highest number). This situation happens, for example, when the user clicks on *"Export"* and then realizes that he has to make some changes.

Because it is normal to make errors, ANNUI-T Plus even allows you to reverse a batch of journal entries. Therefore, if you ever import such entries into your accounting software and some of them contain errors, the best way to correct the situation is often to reverse all of them. Then, you can make the necessary corrections and export a new batch.

With ANNUI-T, to reverse a batch of journal entries, you must select *"Open a file of exported GL entries"* from the "GL Entries" menu and then select the export file. Each file is identified by a batch number. For most of the accounting programs, in the GL, you will notice that an ANNUI-T entry has a batch number reference (ex : ANNUI-T #126).

Once you click on *"Open"*, all the journal entries are displayed. When you click on *"Reverse"*, all debit amounts become credit amounts and vice-versa. Finally, you just have to select *"Export"* again and import this new batch of journal entries into your accounting software to void the previous posting.